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City of Cambridge.

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THE

MAYOR'S ADDRESS

AT THE

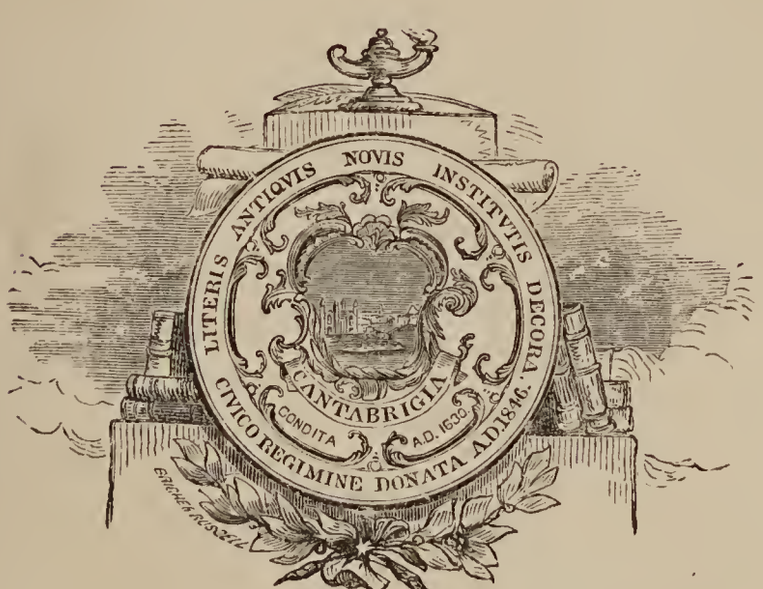
Organization of the City Government,

AND THE

ANNUAL REPORTS

MADE TO

THE CITY COUNCIL.



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CITY OF CAMBRIDGE.

IN COMMON COUNCIL, Jan. 5, 1876.

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CAMBRIDGE.
PRESENTED BY
Wm. G. Wright
March 1899

JANUARY 12, 1876.

Approved.

ISAAC BRADFORD, *Mayor.*

CAMBRIDGE PUBLIC LIBRARY

ADDRESS

OF

HON. ISAAC BRADFORD,

MAYOR.

GENTLEMEN OF THE CITY COUNCIL:

I have the honor to address you, and will acquaint you briefly with the present condition of the leading affairs of the City, as initiative to your coming action, submitting an occasional suggestion for your consideration.

The first subject shall be that of finance, which presents as follows: —

FINANCE.

Total appropriations for 1875	$1,914,287 25
Total expenditures	1,759,773 55
Unexpended balance	$154,513 70
There was a cash balance in the Treasury, Dec. 1, 1874, of	$144,403 12
Existing balance, Dec. 1, 1875	115,579 25
Decrease in cash balance	$28,823 87

This decrease is to be accounted for by the fact that taxes to the unusual amount of $200,000 remain uncollected.

The total debt of the City is found to be as follows, Dec. 1, 1875: —

Trust Funds	Daniel White Charity	$5,000 00
	Dowse Institute	10,000 00
	Sanders Temperance Fund	10,000 00
City Bonds		3,130,000 00
Water Bonds		1,395,200 00
Note of the City		30,000 00
State and County tax for 1875		96,160 73
Unpaid approved bills		29,474 47
Unpaid interest due		920 00
		$4,706,755 20

As offset to this indebtedness: —

General Sinking Fund	$472,430 28
Water Works Sinking Fund	132,581 71
Cash on hand	115,579 25
Total	$720,591 24

Which amount, when subtracted from the amount of total debt, leaves: —

Balance between liabilities and assets	$3,986,163 96
Comparing this balance with the corresponding balance for Dec. 1, 1874	$3,792,135 50
There is found for absolute increase of indebtedness during the year	$194,028 46

The principal items of the increase being Extension ot Water Works, continued work on the Franklin Street Low Land Filling, and Binney Street Sewer.

There will come due, on July 1st of the present year, bonds issued in the year 1871, to the amount of $100,000; the payment of which will be met by moneys in the General Sinking Fund, the same as the $186,400 of Water debt, which came due the past year, was met by the Sinking Fund of the Water Works.

During the elapsed fiscal year there were negotiated $489,000 worth of bonds, of which $157,000 were Water bonds, and the remainder divided as follows: —

10 year bonds.	Funding Loan	$24,000 00
	Building "	17,000 00
	Low Land "	122,000 00
	Bridge "	26,000 00
		$189,000 00
20 year bonds.	Paving Loan	$25,000 00
30 year bonds.	Sewer Loan	$104,000 00
	Street Widening Loan	14,000 00
		$118,000 00

Adding these latter to the number previously issued in conformity with the Sinking Fund Ordinance, there are shown to be outstanding a total of

$1,497,000	ten year bonds,
278,000	twenty year bonds,
649,000	thirty year bonds,

all bearing six per cent rate of interest.

This funded debt, in the aggregate, will require that there be appropriated the present year a special sum of $147,835 for the benefit of the Sinking Fund, being $43,800 more than was called for under the same heading a year ago.

This is due in part to an increase of debt; but more directly to the larger percentage required by a recent amendment of the Ordinance, establishing eight per cent upon Ten Year Bonds in place of six per cent as heretofore. Also an additional sum of $18,000 will have to be raised to meet the extra demands of an

increased interest account, as well as $5,000 more for Water Works Sinking Fund, and interest on Water Bonds. These several sums taken together would, of necessity, increase the rate of taxation $1.00 above what it was last year, were it not that we may expect to carry to the account of Ways and Means, as offset, recovered assessments of a nearly corresponding amount. Yet the lesson is plain; it being that we should resolutely stop debt-making at once, and not delude ourselves with the fallacious idea that because our Bonds are selling at 107, and the Legislative Restraining Act allows us $400,000 more limit of debt, we may go on authorizing loans with impunity on a declining valuation, — or, at best, a stationary one, — else we awake suddenly to the reality of finding ourselves burdened with a rate of taxation oppressive to bear.

The tax last year was nominally $17 per thousand of property valution, though actually only $16.32 to those who were able to pay their bills prior to Oct. 11. This method of loading our taxes with four per cent for the purpose of advertising a rebate, is open to criticism, and I feel should be discontinued; for, besides attaching to the City an uneviable reputation for higher taxes than really exist, it is unjust in its wide discrimination between him who pays upon a certain day, and him who pays the day after. A better way is that, which everywhere else prevails in the Commonwealth, of fixing a day for payment, and then charging, say one per cent per month, for interest afterwards. I bespeak for this the attention it deserves.

WATER WORKS.

The extensions on Water Works for the past year have amounted to $153,170.67, and water debt to the extent of $185,200 has been paid; making the total cost of the Works up to December 1, 1875, to be $1,552,-567.20, for which bonds to the amount of $1,395,200 are now outstanding.

The last Legislature was appealed to for authority to issue an additional half million of Water Bonds, and carry the limit of issue up to $2,000,000. The authority was obtained, with the proviso that hereafter an annual contribution to the Sinking Fund should be made of a sum not less than three per cent on the total amount of outstanding bonds. This three per cent fixed an amount last year of $40,110 to be thus set apart, which was $13,000 in excess of the net earnings of the Works, and had to be furnished from general taxation. A decline in net earnings within the past year or two has been noticeable, and is referable to an increased interest account upon an enlarged debt incurred for the building of the new Pumping-house at the Pond, and the laying of great mains returning no revenue. This addition to debt has been nearly $500,000 within the past three years; and it is to be hoped that matters are now in such condition as practically to stop a further increase of it.

During last winter, the sufficiency of a water supply for the City assumed a serious look. For with a daily consumption of 4,000,000 gallons, and a pond capacity

of no more than 2,000,000 gallons daily yield, the level of the pond had fallen seven feet below high-water mark, and exposed the upper edge of the draughting-main.

In the face of this emergency, the Legislature was further appealed to for authority to use the waters of Spy and Little Ponds, and Wellington Brook; and, under its allowance, a conduit, with regulating gates attached, has been laid, bringing this newer supply into service.

Also an examination of the street-pipes and house-fixtures was made during the summer, and leaks and wastage stopped to the extent of between eight and nine hundred thousand gallons per day. Together, these two influences — the one decreasing the consumption, the other enhancing the supply — are relied upon to meet the wants of the present, and remove immediate apprehension.

Fresh Pond has been dredged on its easterly border, with the design of improving the water in quality, by removing from it decaying vegetable products, and securing it against further vegetable growth and accumulations; and the water coming in from the newer sources has been subjected to analysis, and found to possess a sufficiently high standard of purity for healthful potation.

The above is presented as a synopsis merely of one of the most important of questions affecting the future growth and prosperity of Cambridge.

SCHOOLS.

The total number of pupils attending school is 7,563, showing a decrease of 253 from that of a year ago, due in part to withdrawals to attend private school.

The number of teachers remains unchanged, being 184. The number of schools is 28.

The expenditures have been as follows: —

For general instruction	$159,951 59
Evening schools for adults	5,862 44
Care and repair of schoolhouses	47,508 93
New schoolhouses and alterations	44,111 99
Truant officers	5,500 20
Summing up a total of	$262,935 15

During the past year a schoolhouse has been built at the corner of Oxford and Sacramento streets, named the "Agassiz." It is now occupied by the Training-School, with primary department attached. Also the Thorndike Grammar-school House at East Cambridge has been remodelled and enlarged. Plans for the enlargement of the High-school House have been ordered ; but I advise that no appropriation be made, nor steps taken looking to such alteration, until a necessity for the same imperatively shall exist. There is one piece of work, however, which, I am informed, should be done, — the finishing off of the upper story of the Gore Primary-school House, at a cost of about $3,000, and accordingly submit it to your notice.

POLICE AND FIRE DEPARTMENTS.

The Police and Fire Departments are each thoroughly efficient, and under competent direction. The

absence of unpunished crime, on the one hand, and the promptness with which fires are extinguished, on the other, justify the statement.

The expenditure for the Police Department for the year closed has amounted to $71,093.35; and there has been returned to the Treasury from court fees to officers the sum of $4,412.09. The number of arrests has been 1,791, — a decrease of 133 from a year ago; and the number of lodgers accommodated at the several station-houses, 4,840, — an increase of 1,778, or two and a half times the number received in the year 1873; showing, unhappily, a growing, roaming destitution. The value of property stolen has amounted to $4,016; and of that recovered, $2,428.

The force has an established number of sixty members; and while a few more officers might be used effectively in certain comparatively unguarded localities, yet I would not advise an increase at this time, on account of the attendant expense; nor should there be any reduction made, as, with the present arrangement of details, a single loss would be positively felt.

The Chief of Police says a word in his report concerning the tenure of office of the police, and the reasonableness of making it more secure, which has my entire concurrence. Every dictate of policy declares for the means which shall assure the police officer in the independent discharge of his duty, undisturbed by threats or subsequent machinations. He should hold his place during good behavior; should stand aloof from political movements; and be relieved from dan-

ger of political change. This can be accomplished, measurably, in the same manner as it is done in the city of Boston, the officers there holding over from year to year, subject only to removal by the Mayor, and then presumably for some good cause.

It is not within the power of the City Council to regulate this matter by ordinance; it must be done under special authority of the Legislature.

The Fire Department has cost, the past year, $89,-949.99, which represents, like the police expenditure, something more than mere payments for services, including as well all that may be referred to it, like the placing of bell-strikers and alarm-boxes, and the purchase even of furniture for houses. However, at most, it will scarcely be disputed that the security obtained compensates for the cost, particularly when it is learned that the total loss by fire for the past twelve months has not exceeded $70,000, on which there was insurance to the extent of $55,000.

There is one special item of expense which may arise this year, — the providing of some more comfortable and suitable quarters for Hook and Ladder Co. No. 2, upon Cambridge Street. The wooden building now occupied by that company was erected in 1873, upon land then owned by the City, and was regarded at the time rather as a temporary structure, being simply and cheaply constructed; but now that the location is recognized as having been correctly selected, it is felt that a new and substantial building of brick, having proper conveniences, should be placed there. This, it is esti-

mated, will cost about $6,000; and, the finances allowing, I recommend that the same be done.

The new building in Brattle Square has lately been made ready for occupancy; and the Police and Engine Company in Ward One have been transferred from Church Street into it. This leaves the Church Street property free for disposal, as the City can have no further use for it; and I advise its sale.

The Brattle Square building is also to furnish accommodation for the police court, an armory, an evening school, fire-alarm battery, overseer of the poor, and other offices, to be located there from time to time, as occasion shall present.

SEWERS.

The cost of the sewers constructed the past year has been $135,432.28, which, added to the sum of previous disbursements for this heading, makes the total cost of sewers to be $897,259.35, upon a total length of 58 miles.

The two more important works of the kind undertaken during the year have been those of Franklin Street and of Binney Street; the former rendered necessary by reason of the older drain having settled and been broken by weight of superincumbent gravel deposited upon it in filling of the district. It was begun in October, and finished in November, and cost inside of $10,000. The other, the Binney Street Sewer, was begun in the spring, and would have been completed by the first of December, except for ill-luck

attending the coffer-damming upon the river flats. The work, in consequence, was suspended a month ago, leaving about 700 feet still to construct, which will be carried through by the contractor when the season opens. This sewer, for which an appropriation of $36,000 has been made, and bonds sold, may be regarded as another one of those imperative works which the City has been forced to undertake within the past few years; this time, under a threatened injunction from the Supreme Court against further use of Broad Canal as an outlet for sewers discharging into it. The sewer begins upon Broadway where the Harvard Street Sewer crosses, and proceeds westerly through Broadway and through Hampshire Street, then by way of Portland Street into Binney Street, and thence easterly to discharge into the river at the Commissioners' line, midway between West Boston and Craigie Bridges. In its course it takes up the Hampshire Street and the Ninth Street Sewers, — the Ninth Street Sewer, in turn, supplying the conveyance for the drainage of Cambridge Street even up to Inman Street; so that, in the aggregate, this Binney Street Sewer will furnish the outlet for a large part of the sewerage of Ward Two.

The special new work for this year will be the extension of the Bridge Street Sewer — which debouches at the abutment pier of Craigie Bridge, and creates a nuisance there — 200 feet into deeper water. The city of Somerville will bear a part of the expense with us, making our share, on estimate, to come to about $10,000.

There has been returned to us from the city of Somerville $52,349.70, in settlement of the Bridge Street Sewer expenditure, under decision of the appointed commissioners, which has been placed to the credit of the Sinking Fund ; and some assessments are yet to be laid for sewers built, the orders for the same being in process of preparation.

LOW LANDS.

The filling of low lands is rapidly approaching completion, with the finishing work now being done upon the Franklin Street district. Of the other districts which were reported as done a year ago, exclusive of the Washington Street district, then disposed of, but two have as yet been assessed, the labor attending the hunting up of titles to lands and ownership having caused the delay. On one of these, — the Miller's River district, — assessments have been laid to the amount of $94,298.54 ; on the other, — the Cambridge Street district, — the assessments amount to $31,037.60. To owners in the latter district the privilege exists of having their assessments apportioned into five annual payments, like as was enjoyed by owners in the Washington Street district, only that the opportunity must be availed of by making application to the Board of Mayor and Aldermen prior to the service of the collector's demand ; and, to permit this being done, the retiring Board have fixed the date for the issuing of bills on February 1. Accordingly, all applications for apportionment must be made previous to this date, as

after then it will be legally impossible to consider any others. When apportioned, the fractional part will be included in the annual tax, with interest running at six per cent until final payment is made.

In passing, I would repeat the expression I had the honor to make to the late City Council, — that, on the completion of the filling now in hand, all further work of the kind by the City as agent should cease.

STREETS.

Previous to last year the appropriation for the Street Department had been made under the conjoint title of "Streets and Paving," which, in its duplex character, permitted an exclusive use of the same for paving (including the laying of sidewalks), to the discredit of the more immediate care of the streets.

To remedy this objection, and place a limit upon orders for paving, the appropriation was divided last year under resolved headings, — one called "Streets," the other called "Paving."

As a result of this change, a marked improvement at once exists in the condition of some of the more travelled roadways, like Mt. Auburn Street and North Avenue, and others which might be mentioned. The desirableness of continuing this policy needs no elaboration of argument.

There has been expended the past year for streets $94,990.20, and for paving $22,567.51, of which $3,531.65 went to meet outstanding indebtedness under

orders of the year 1874. Also $20,811.86 has been expended for widening and extending of streets, of which, likewise, $12,392.64 was required to satisfy damages handed down from former years.

One street, namely, Moore Street, has been widened, 34 have been accepted, and 85 graded in part or full; 12,746 feet of edgestones have been set, and 26,575 square yards of paving laid.

Numerous petitions for sidewalks and crossings have been dismissed of necessity, owing to the smallness of funds assigned for the purpose. And, in this connection, a single reflection presents, which is that a general self-denial ought to prevail in all wants of this class not absolutely demanded, until our debt and the taxes be somewhat reduced.

There are two matters belonging to this subject of streets which will probably engage your decision. I refer to the layings out of First Street and of Albany Street, both of which orders were adopted in the month of December, 1874. By a provision of the controlling statute, lands must be entered upon within two years after the laying out of a street, otherwise the order for the same becomes null and void. One year has already elapsed; and nothing as yet has been done in either of these cases. It therefore remains with you to decide; and as you grant or refuse an appropriation, so shall the particular project terminate.

The First Street order contemplates the running of a street from the end of the causeway on West Boston Bridge to the north bank of Broad Canal, removing the

larger portion of the Shawmut Iron Company's building, at a cost of $13,000, and the construction of a bridge of an estimated cost of $17,000, besides a possible large bill for damages to canal proprietors by reason of an invasion of their rights to an unobstructed navigation. The argument advanced for engaging the City in this work is that the improvement of the flats, now being carried forward, is so important in degree as properly to merit municipal encouragement, with an assumption of all attendant risks. Undeniably the improvement, when fully made, will be a grand one; but the single question is, whether the City has money thus to spend at this time, and whether private enterprise, which is to receive the direct benefit of the investment, should not be allowed to bear, as legitimate to the speculation, the burden as well. A later declaration, from the Board of Harbor Commissioners, that the proposed bridge across the canal may not be built without legislative consent, presents as an interference with, if not an absolute vacation of, the order of laying out.

The Albany Street order was the result of a call from the neighborhood of Fort Washington for a direct and convenient access to Boston by way of West Boston Bridge. It was urged that such a route would postpone, if not entirely avoid, the building of a new bridge across the river, as located by the Legislature of 1873; and that, owing to certain favoring conditions of ownership of the lands to be traversed, no claims for damages would present, but, on the contrary, a considerable section of the road would be built at private expense,

and donated to the City. The portion of the road as agreed upon has been built, and no very considerable damages have been claimed. Entry, however, has not yet been made by the City, and the matter remains open and free for your action. I say free for your action, because, as will be recognized, it no longer comes within practical reach of executive bias.

BRIDGES.

During the past year, a new revolving draw has been placed upon West Boston Bridge, which, together with the like work done upon Craigie Bridge the year before, has cost entire for our share about $100,000. These two structures have been erected in compliance with a legislative act requiring the widening of the several draws to thirty-six feet, to allow vessels of greater beam to pass up the river. One more bridge, that at Prison Point, remains as yet unaltered; and the Superintendent of Streets, under whose charge it rests, advises that the order of the Harbor Commissioners, thus far annually awaited, be anticipated, inasmuch as the bridge is in an unsafe condition, and should be rebuilt. This will cost us for our half about $12,000; and with other repairs necessary to be made upon the warping-piers of some of the remaining bridges, including the cost of rebuilding the Walden Street bridge, which was broken down last autumn, there will be required in all for the coming year an appropriation of $20,000.

ALMSHOUSE.

The total expenditure for the poor during the year has amounted to $72,583.54; of which sum $36,776.39 has been used for the support of the Almshouse direct, including $6,000 for the introduction of steam and for repairs; and $35,807.15 has gone for outside aid, including payments made to other cities and towns, and to public institutions. The returns have amounted to $4,549.66, leaving $68,033.88 as the absolute expenditure of this department.

The collection of house offal has cost an additional $7,136.00; and sales of the same have returned $4,475.29.

The Overseers report the House as being nearly full, and state that more room will be required if calls continue. This presents the matter in a serious light, which may demand some special and extraordinary action on our part. Last winter the policy was pursued of aiding families outside the house by paying their rents, which to a certain extent has been continued throughout the year with that class of cases where such moderate assistance has been found sufficient to bridge over a temporary necessity. But it is evident that there exists a limit to the adoption of such a course; and it is thus, in an unwillingness of the Overseers to enlarge so peculiar a responsibility, that the apprehended contingency may become precipitated.

The distress existing in certain quarters is painful to witness, it having grown in intensity from month to

month during the long-continued period of business depression which has prevailed since the panic of 1873. Resources have at last become exhausted in the struggle with insufficient work and insufficient wages, until now many, who formerly lived in comparative comfort, find themselves reduced to extremity. The work of dredging at Fresh Pond, and the sewer in Franklin Street, happily furnished employment to three or four hundred laborers during the closing months of the year; and if the weather shall prove favorable for the cutting of ice within the next few weeks, the winter may be passed with an amelioration of the impending rigors of want.

To the honest, industrious man wages earned are always preferable to a charity received; yet in the absence of employment he may be forced to ask that which, if he have a settlement, it is his right to ask, and the bounden duty of the more fortunate to provide. The Overseers have expressed the opinion that they will require $100,000 for the present year; still, when the time shall come to make the annual appropriation, it may be found that a lesser sum will answer. Let us trust in the possibilities of a re-enlivened industry to dispel the investing gloom.

IN GENERAL.

For fuller and detailed statements concerning the different Departments, I would refer you to the several reports which have been received and are shortly to be printed, including those of the Cemetery Commissioners, the Superintendent of Lamps, and Trustees of the

Dana Library, wherein will be found the entire record of the doings of the past year, so carefully and abundantly stated that I forbear to amplify further.

GENTLEMEN :

In conclusion, permit me to say, that as we have been intrusted with the delicate and responsible charge of administering the affairs of the City for the ensuing year, so the trust imposes upon us, at all times, a careful, deliberate, and dispassionate discussion of matters arising, to be supplemented always with a judgment based on the rule of unfaltering economy. As we fulfil this obligation, so may we expect to receive the commendations of our fellow-citizens. And even though commendation be denied us, yet shall we be sustained in our record, and not be deprived of that silent reward which attends the consciousness of having aimed faithfully to discharge an accepted duty.

ISAAC BRADFORD.

CAMBRIDGE, Jan. 3, 1876.

ANNUAL REPORT

OF

THE COMMITTEE ON FINANCE.

The Joint Standing Committee on Finance respectfully submits its Annual Report to the City Council for the year ending Nov. 30, 1875.

There was appropriated at the commencement of the year $1,894,287.25 to defray the expenses of the Government; subsequently it was found necessary to make an additional appropriation of $20,000 for sewers, to relieve the Franklin Street district, the old sewer having become unserviceable, owing to the filling to grade of said district.

Total Appropriation for 1875	$1,914,287 25
Total Expenditures under the Appropriation Bill	1,759,773 55
Balance unexpended	$154,513 70

RECEIPTS AND EXPENDITURES.

Cash in hands of Treasurer, Nov. 30, 1874 .	$144,403 12
Cash Receipts for the year	2,576,443 87
Total	$2,720,846 99
Total Expenditures during the year . .	2,605,267 74
Balance, Cash in Treasury, Nov. 30, 1875	$115,579 25

SINKING FUND OF THE WATER WORKS.

This Fund, June 30, 1874, was . . .	$251,598 68
Added during the year	61,083 03
	312,681 71
Deduct Water Loan Bonds, due May 1, 1875, paid by Trustees	180,100 00
Total Fund, June 30, 1875 . . .	$132,581 71

This Fund is invested as follows: —

Cambridge Water Loan Bonds . . .	$91,041 25
Temporary Loan to the City	41,540 46
Total	$132,581 71

[The Water Loan Bonds, due May 1, 1875, amounted to $186,400; as will be seen only $180,000 had been paid June 30, 1875; subsequently there has been presented and paid $5,100, leaving $1,200 outstanding, Nov. 30, 1875.]

6.3

SINKING FUNDS OTHER THAN SINKING FUND OF WATER WORKS.

These Funds, Nov. 30, 1874, were . .	$212,466 04
Added during the year: —	
For Betterment Assessments . . .	3,564 13
Kent Street Bridge	86 87
Paving Assessments	26,037 43
Real Estate Sales	6,263 00
Drain Assessments	38,688 45
Bridge Street Sewer, from City of Somerville	50,413 39
City of Somerville, Catch Basins . .	172 77
Washington Street District Assessments .	17,640 82
Funding old Loan	10,000 00
Amount carried forward . . .	$365,332 90

Amount brought forward . . .	$365,332 90
For Outstanding 10-year Bonds . . .	78,480 00
" 20 " " . . .	7,590 00
" 30 " " . . .	7,965 00
Interest on Fund	12,594 38
" Temporary Loan . . .	468 00
Total Fund, Nov. 30, 1875 . . .	$472,430 28

These Funds are invested as follows: —

Bonds of the City	$472,239 67
Cash in hands of Commissioners . . .	190 61
	$472,430 28

ANALYSIS OF THE CITY DEBT.

Amount of City Debt, Nov. 30, 1875 . .	$4,400,603 34
Added during the year: —	
State and County Taxes	96,160 73
Bills approved and interest due . . .	30,394 47
City and Water Loan Bonds	489,000 00
	$5,016,158 54
Deduct amount paid during the year . .	309,403 34
Total, being amount of gross debt, Nov. 30, 1875	$4,706,755 20
Amount of gross debt, Nov. 30, 1874 . .	4,400,603 34
Increase of gross debt during the year . .	$306,151 86
Amount of gross debt, Nov. 30, 1875 . .	$4,706,755 20
" general and Water Loan Sinking Funds	599 911 99
" Net Debt, Nov. 30, 1875 . .	$4,106,843 21
" " " 30, 1874 . .	3,936,538 62
Increase of " during the year . .	$170,304 59

[The increase of debt, as shown above, is attributable to several extraordinary expenditures: first, for construction of Binney Street Sewer, ordered by City Council of 1874 in compliance with orders of the Supreme Court to abate nuisance in Broad Canal; second, filling low lands; third, alterations West Boston Bridge, under orders of Commissioners; fourth, the unusual amount of approved unpaid bills. An apparent discrepancy between the foregoing analysis and the report of the Trustees of the Sinking Fund of the Water Works, is due to the fact that the report is brought down only to June 30, 1875.]

CLASSIFICATION OF THE CITY DEBT.

Daniel White Charity	$5,000 00
Dowse Institute Fund	10,000 00
Sanders Temperance Fund	10,000 00
Cambridge Water Loan Bonds outstanding	1,395,200 00
" City " "	3,130,000 00
State Tax	58,580 00
County Tax	37,580 73
Bills approved	30,394 47
Notes of the City	30,000 00
	$4,706,755 20

UNCOLLECTED TAXES AND OTHER ASSESSMENTS.

The Taxes assessed for 1875, were:		
For City purposes	$1,060,396 52	
State Tax	58,880 00	
County Tax	37,580 73	
Bank Tax	21,619 75	
School Books	111 42	
		$1,178,588 42
Of the above Tax the amount collected is	$920,897 02	
Discounted	37,226 67	
Abated	30,576 92	
		988,700 61
Balance uncollected		$189,887 81

Of the Tax of 1874, there remained uncollected, Dec. 1, 1874		$107,320 06
Of that amount there has been collected . . .	$55,481 31	
Abated	4,572 58	
		60,053 89
Balance uncollected		$47,266 17
Of the Tax of 1873, there remained uncollected, Dec. 1, 1874		$31,928 87
Of that amount there has been collected . . .	$24,289 15	
Abated	1,259 34	
		25,548 49
Balance uncollected		$6,380 38
The amount of Drain Assessments committed to the Treasurer in the year 1874, was .		$45,176 96
Of that amount there has been collected . . .	$37,699 01	
Abated	1,954 86	
		39,653 87
Balance uncollected		$5,523 09
The amount of assessments for grading Washington Street District, was . . .		$77,468 31
Of that amount there has been collected . .		17,640 82
Balance uncollected		$59,827 49
Of the amount of Assessments for the abatement of nuisances there remained uncollected, Dec. 1, 1874		$43,845 06
Of that amount there has been collected . . .	$833 10	
Abated	364 50	
		1,197 60
Balance uncollected		$42,647 46

The following tables show the variation in the number of Polls, amount of Personal Property, value of Real Estate, and number of Dwellings in the City, for the years 1874 and 1875, as taken

from the Assessors' books made up to 1st of May of each year : —

Polls and Valuation of Estates for 1874.

Ward.	Polls.	Personal Estate.	Real Estate.	Total.	No. of Dwellings.
1	1,844	$6,268,440	$12,917,700	$19,186,140	1,342
2	3,414	5,300,801	12,881,000	18,181,801	2,079
3	2,789	2,254,330	7,789,200	10,043,530	1,331
4	2,792	2,352,200	8,981,700	11,333,900	1,811
5	1,144	1,357,200	6,474,100	7,831,300	820
Total	11,983	$17,532,971	$49,043,700	$66,576,671	7,383

Polls and Valuation of Estates for 1875.

Ward.	Polls.	Personal Estate.	Real Estate.	Total.	No. of Dwellings.
1	1,859	$5,918,078	$13,195,200	$19,113,278	1,402
2	3,351	5,078,728	13,290 900	18,369,628	2,179
3	2,744	2,196,108	8,044,000	10,240,108	1,351
4	2,849	1,980,600	9,013,300	10,993,900	1,887
5	1,180	1,294,200	6,611,900	7,906,100	857
Total	11,983	$16,467,714	$50,155,300	$66,623,014	7,676

The above tables show an increase during the year

in Real Estate of	$1,111,600
A decrease in Personal Estate of . . .	1,065,257
An increase in No. of Dwellings . . .	293

No variation in No. of Polls.

The rate of taxation was $17 per $1,000, subject to the usual deduction of four per cent if paid before Oct. 10, making the net rate, $16.32 per $1,000.

Respectfully submitted.

ISAAC BRADFORD,
WM. L. WHITNEY,
SAM'L L. MONTAGUE,
GEORGE F. PIPER,
EDMUND REARDON,
WALTER S. SWAN,
FRANK A. ALLEN,

Committee on Finance.

SCHEDULE OF EXPENDITURES

FOR

THE FINANCIAL YEAR ENDING NOV. 30, 1875.

For Almshouse.

Salaries		$3,662 62	
Supplies for the house		9,488 50	
Dry goods and clothing		1,995 16	
Sundry laborers		6,601 38	
Gas, fuel, and water		3,794 21	
Steam-heating apparatus		6,649 07	
Furniture		574 89	
Hay, grain, and meal		1,762 25	
Tools, hardware, etc.		385 41	
Assistance to poor out of the house		31,052 54	
Support of persons in State institutions		5,986 18	
Repairs and materials		5,927 88	
Other expenses		1,839 45	
			$79,719 54
Appropriation	$72,000 00		
Additional Appropriation	8,300 00		
		$80,300 00	
Amount of expenses		79,719 54	
Balance unexpended		$580 46	

For Cambridge Free Dispensary.

Amount paid Trustees		$1,000 00
Appropriation	$1,000 00	
Amount of expenses	1,000 00	

For Care and Repairs of Bridges.

Care of draws	$562 50	
Sundry workmen	3,200 00	
Lumber	1,214 15	
Repairs and materials	1,016 45	
Other expenses	72 45	
		$6,065 55
Appropriation	$7,500 00	
Amount of expenses	6,065 55	
Balance unexpended	$1,434 45	

For Care and Maintenance of West Boston and Craigie's Bridges.

Commissioner, salary	$375 00	
Sundry persons	2,410 75	
Rebuilding draw West Boston Bridge,	19,144 20	
Rebuilding Craigie's Bridge	1,293 96	
House for Superintendent	1,249 49	
Repairs and materials	449 62	
Paving and materials	6,006 41	
Engineering	325 00	
Gas and fuel	1,108 24	
Other expenses	640 17	
		$33,002 84
Appropriation	$45,500 00	
Amount of expenses	33,002 84	
Balance unexpended	$12,497 16	

For Care and Repairs of Schoolhouses.

Services of School Committee	$66 64	
Rent of halls for school-rooms	495 00	
School furniture	4,259 45	
Mats, dusters, etc.	645 74	
Care of houses, fires, etc.	9,290 15	
Repairs and materials	10,956 57	
Furnaces and repairs	4,384 73	
Gas, fuel, and water	10,348 50	
Books and stationery	5,204 05	
Other expenses	1,858 10	
		$47,508 93
Appropriation	$50,000 00	
Amount of expenses	47,508 93	
Balance unexpended	$2,491 07	

For Care and Repairs of Water Works.

Superintendent, salary	$2,500 00	
Water Registrar, salary	2,000 00	
Clerk of Water Board, salary	200 00	
Assistants	2,281 96	
Rent of office and shop	600 00	
Safe	432 00	
Sundry workmen	13,811 16	
Repairs and iron work	1,316 71	
Thawing water pipes	774 76	
Water rates refunded	456 08	
Water gates	566 10	
Tools, hardware, etc.	639 92	
Horse keeping	568 61	
Other expenses	2,504 47	
		$28,651 77

Appropriation . .	$30,000 00	
Additional Appropriation . . .	2,500 00	
		$32,500 00
Amount of expenses . . .		28,651 77
Balance unexpended . .		$3,848 23

For Cemeteries.

Superintendent, salary . . .	$1,500 00	
Sundry workmen	13,434 35	
Gravel, sods, etc.	2,648 64	
Other expenses	1,728 67	
Superintendent, old ground . .	12 00	
Repairs of fence, old ground . .	115 00	
		$19,438 66
Appropriation . .	$16,000 00	
Additional Appropriation . . .	3,438 66	
		$19,438 66
Amount of expenses . . .		19,438 66

For City Engineering.

City Engineer, salary . . .	$3,000 00	
Assistants	3,230 25	
Safe	1,275 02	
Engraving, etc., city map . .	379 60	
Plans and specifications . . .	344 75	
Horse keeping and car fares . .	525 00	
Other expenses	242 10	
		$8,996 72
Appropriation	$10,000 00	
Amount of expenses . .	8,996 72	
Balance unexpended . .	$1,003 28	

For Compensation of Auditor of School Committee.

Appropriation	$150 00	
Balance unexpended	150 00	

For Compensation of Secretary of School Committee.

Secretary, salary		$300 00
Appropriation	$300 00	
Amount of expenses	300 00	

For Dana Library.

Sundry persons		$2,076 53	
Rent and care of rooms (in part)		753 00	
Printing catalogue, etc.		1,139 96	
Books, papers, and stationery		1,429 04	
Other expenses		641 51	
			$6,040 04
Appropriation	$6,000 00		
Additional Appropriation	50 00		
		$6,050 00	
Amount of expenses		6,040 04	
Balance unexpended		$9 96	

For Evening Schools for Adults.

Instruction		$4,173 00	
Books, drawing materials, etc.		847 14	
Other expenses		842 30	
			$5,862 44
Appropriation	$5,700 00		
Additional Appropriation	657 12		
		$6,357 12	
Amount of expenses		5,862 44	
Balance unexpended		$494 68	

For Extension of Water Works.

Sundry workmen	$47,322 33	
Cleaning out Alewife Brook	4,414 20	
Pump and repairs	15,343 57	
Conduit between ponds	22,167 84	
Pipes and freight	37,585 28	
Hydrants, gates, etc.	12,726 63	
Lead and packing	5,838 00	
Steam-heating apparatus	560 00	
Balance on hand	525 00	
Engineers' services	428 50	
Other expenses	6,259 32	
		$153,170 67
Appropriation	$160,000 00	
Amount of expenses	153,170 67	
Balance unexpended	$6,829 33	

For Filling Low Lands.

Franklin Street District	$62,091 39	
Mill Pond District	7,937 26	
Sparks Street District	4,359 47	
Sidney Street District	2,147 18	
Cowperthwaite Street District	655 91	
Filling Dyke Street	1,237 57	
Millers' River District, sewer, Fifth Street	1,167 20	
Building cesspools and catch basins	1,041 37	
Stone and lumber	2,119 99	
Engineering	182 80	
Other expenses	153 25	
		$83,093 39
Appropriation	$122,000 00	
Amount of expenses	83,093 39	
Balance unexpended	$38,906 61	

For Fire Department.

Chief Engineer, salary		$1,200 00
Assistant Engineers, salaries		1,600 00
Clerk of Engineers, salary		50 00
Services of members		41,683 04
House, Inman Street		4,921 07
Heating apparatus		2,683 49
Furniture		3,791 50
Fuel, gas, and water		3,340 23
Horses		1,475 00
Hay, grain, and straw		3,676 96
Harnesses and repairs		786 90
Repairs and materials		6,527 10
Hose and repairs		7,607 62
Expenses of fire alarm		3,867 87
Other expenses		6,739 21
		$89,949 99
Appropriation	$86,700 00	
Additional Appropriation	4,000 00	
	$90,700 00	
Amount of expenses	89,949 99	
Balance unexpended	$750 01	

For Hopkins Fund.

Appropriation	$900 00

[Transferred to "Instruction in Public Schools," towards salary of Classical Teacher in High School.]

For Incidental Expenses.

Legal services and expenses	$2,739 60
Settlement of claims	1,961 70
Somerville tax bill	1,190 70
Belmont tax bill	95 00
Amount carried forward	$5,987 00

Amount brought forward	$5,987	00
Printing and advertising	1,602	65
Books, stamps, etc.	894	38
Recording births, deaths, and marriages	930	30
Treasurer, for clerical assistance	1,000	00
City Clerk, for clerical assistance	1,500	00
Page of Common Council	100	00
Assistant Assessors, services	644	00
Abstract of conveyances	266	02
Distributing tax bills, etc.	541	46
Taxes and assessments refunded	375	86
Care and furnishing Ward Four building	6,938	50
Services of ward officers	400	00
Expenses of ward-rooms	172	69
Armory expenses	588	62
Expenses of celebration, July 3	2,951	84
Expenses of celebration, April 19	1,500	00
Expenses of Decoration Day	1,099	00
Expenses of funeral of Sumner	242	00
Horse hire and car-fares of 1874	1,908	00
Horse hire and car-fares of 1875	682	00
Repairs at City Hall of 1874	1,028	96
Repairs at City Hall of 1875	1,043	32
Expenses at City Hall of 1874	1,594	18
Expenses at City Hall of 1875	2,093	04
Furniture and repairs at City Hall of 1874	930	98
Furniture and repairs at City Hall of 1875	468	86
Clock telegraph	203	45
Fire-proof vault	1,981	50
Expenses of Health Department	205	95
Engraving map	350	00
Other expenses	2,629	47
		$42,854 03

Appropriation		$50,000 00	
Amount of expenses .	$42,854 03		
Transferred . .	6,357 32		
		49,211 35	
Balance unexpended . .		$788 65	

For Instruction in Public Schools.

Salary of Superintendent . .		$3,000 00	
Salaries of Teachers . . .		156,524 25	
			$159,524 25
Appropriation .	$157,000 00		
Additional Appropriation .	2,525 00		
		$159,525 00	
Amount of expenses . .		159,524 25	
Balance unexpended . .		75	

For Interest and Bank Discounts.

Interest on City Debt . . .		$252,377 76	
Sundry Banks, etc., on temporary loans		21,523 20	
			$273,900 96
Appropriation		279,000 00	
Amount of expenses	$273,900 96		
Transferred .	4,913 66		
		$278,814 62	
Balance unexpended . .		$185 38	

For Lighting Streets.

Superintendent of Lamps, salary .		$400 00	
Gas		12,636 03	
Fluid, matches, etc.		270 20	
Care of lamps and lighting . .		5,368 61	
Posts, lanterns, and repairs . .		2,106 52	
Other expenses		137 68	
			$20,919 04

Appropriation	$21,000 00	
Amount of expenses . . .	20,919 04	
Balance unexpended . .	$80 96	

For New Schoolhouses and Alterations.

Agassiz Schoolhouse . . .	$24,048 89	
Alterations in Thorndike Schoolhouse,	9,244 40	
Heating apparatus, High-school House,	693 33	
Land for Schoolhouse . . .	9,435 00	
Other alterations and furniture . .	690 37	
		$44,111 99
Appropriation . . $45,000 00		
Additional Appropriation . . . 500 00		
	$45,500 00	
Amount of expenses . .	44,111 99	
Balance unexpended . .	$1,388 01	

For Paving.

Paving and materials . . .		$22,567 51
Appropriation	$25,000 00	
Amount of expenses . .	22,567 51	
Balance unexpended . .	$2,432 49	

For Payment of City Debt.

City bonds		$24,000 00
Appropriation	$24,000 00	
Amount of expenses . .	24,000 00	

For Police and Watch.

Chief of Police, salary . . .	$2,000 00
Services of policemen . . .	64,716 00
Care of Police Court room . .	100 00
Gas, fuel, and water . . .	1,972 52
Repairs and materials . . .	696 87
Amount carried forward .	$69,485 39

Amount brought forward	$69,485 39	
Supplies	399 39	
Furniture	74 60	
Boarding horses and horse hire	676 00	
Other expenses	457 97	
		$71,093 35
Appropriation	$72,000 00	
Amount of expenses	71,093 35	
Balance unexpended	$906 65	

For Police Court Room, etc., Ward One.

Architect		$2,500 00	
Contractors		45,930 91	
Foundation, bill of 1874		5,891 39	
Difference in brick, bill of 1874		1,525 00	
Heating apparatus		3,000 00	
Plumbing, etc.		201 81	
Hardware, mats, etc.		711 25	
			$59,760 36
Appropriation	$66,000 00		
Additional Appropriation	8,000 00		
		$74,000 00	
Amount of expenses		59,760 36	
Balance unexpended		$14,239 64	

For Public Squares.

City Forester, services	$708 00	
Labor	1,264 40	
Expenses of flags and flagstaffs	177 25	
Trees and tree guards	91 39	
Painting fences, Common	73 01	
Settees for Common	41 93	
Water for drinking fountains	885 00	
Other expenses	823 64	
		$4,064 62

Appropriation . .	$3,500 00		
Additional Appropriation . . .	700 00		
		$4,200 00	
Amount of expenses . .		4,064 62	
Balance unexpended . .		$135 38	

For Salaries of City Officers.

Mayor		$2,500 00	
Treasurer		3,000 00	
City Clerk		2,000 00	
Auditor of Accounts . . .		1,000 00	
City Solicitor		2,000 00	
Clerk of Committees . . .		1,500 00	
Clerk of Common Council . .		300 00	
Board of Assessors . . .		6,000 00	
Inspector of Milk		200 00	
Sealer of Weights and Measures .		500 00	
Messenger		1,500 00	
			$20,500 00
Appropriation		$20,500 00	
Amount of expenses . .		20,500 00	

For Scientific Department of High School.

Microscope		$47 00	
Chemicals, etc.		32 94	
			$79 94
Appropriation		$100 00	
Amount of expenses . .		79 94	
Balance unexpended . .		$20 06	

For Sewers and Drains.

Building sewers and cesspools . .		$35,705 58	
Labor		4,021 18	
Bricks, stone, and lumber . .		1,029 15	
Other expenses		286 87	
			$41,042 78

Appropriation . .	$30,000 00		
Additional Appropriation . . .	20,000 00		
		$50,000 00	
Amount of expenses . . .		41,042 78	
Balance unexpended . .		$8,957 22	

For Sewer in Binney Street.

Contractor for sewer . . .		$81,623 50	
Dredging Broad Canal . . .		6,000 00	
Connecting Sewers		400 00	
Engineering, Inspection, etc. . .		263 75	
			$88,287 25
Appropriation . . .		$136,000 00	
Amount of expenses . . .		88,287 25	
Balance unexpended . .		$47,712 75	

For Sewer in Bridge Street.

Commissioners		$5,000 00	
Engineering		1,043 50	
Other expenses		58 75	
			$6,102 25
Appropriation		$6,102 25	
Amount of expenses . . .		6,102 25	

For Sinking Fund of Water Works.

Amount paid Trustees of Fund .			$40,110 00
Appropriation		$54,000 00	
Amount of expenses .	$40,110 00		
Transferred . .	13,000 00		
		$53,110 10	
Balance unexpended . .		$890 00	

For Sinking Funds.

Amount paid Trustees of Funds .			$104,035 00
Appropriation . . .		$104,035 00	
Amount of expenses . . .		104,035 00	

For Stationery and Printing.

Books and Stationery		$2,234 55	
Printing		2,894 17	
			$5,128 72
Appropriation		$10,000 00	
Amount of expenses	$5,128 72		
Transferred	3,000 00		
		$8,128 72	
Balance unexpended		$1,871 28	

For Streets.

Superintendent of Streets, salary		$2,000 00	
Amount paid for labor		51,991 64	
Filling Brattle Square		3,315 86	
Shed at City Stables		865 00	
Brick, gravel, and stone		25,908 23	
Lumber, tools, etc.		1,069 94	
Horses and carts		1,150 00	
Horseshoeing and ironwork		2,564 87	
Hay, grain, and meal		4,961 41	
Harnesses and repairs		242 20	
Other expenses		921 05	
			$94,990 20
Appropriation		$95,000 00	
Amount of expenses		94,990 20	
Balance unexpended		$9 80	

For Supply Account of Water Works.

Sundry workmen		$4,642 84	
Supplies		7,099 95	
Wagon and repairs		293 87	
Other expenses		461 93	
			$12,498 59
Appropriation		$15,000 00	
Amount of expenses	12,498 59		
Transferred	2,500 00		
		$14,998 59	
Balance unexpended		$1 41	

For Text-Books for High School.

Books			$47 40
Appropriation		$200 00	
Amount of expenses		47 40	
Balance unexpended		$152 60	

For Truant Officers.

Services of Officers			$5,500 20
Appropriation	$5,500 00		
Additional Appropriation	20		
		$5,500 20	
Amount of expenses		5,500 20	

For Volunteers and their Families.

Amount paid to soldiers' families			$22,000 00
Appropriation		$22,000 00	
Amount of expenses		22,000 00	

For Watering Streets.

Superintendent, salary		$525 00	
Paid for watering		12,171 40	
Repairs of carts		346 31	
			$13,042 71
Appropriation		$15,000 00	
Amount of expenses		$13,042 71	
Balance unexpended		$1,957 29	

For Widening and Extension of Streets.

Damages			$20,811 86
Appropriation		$24,600 00	
Amount of expenses		20,811 86	
Balance unexpended		$3,788 14	

RECAPITULATION OF EXPENDITURES FOR THE FINANCIAL YEAR ENDING NOV. 30, 1875.

	Original Appropriations.	Added subsequently.	Subtracted subsequently.	Appropriations as altered.	Amount of Expenditures.	Balances Unexpended.
Almshouse	$72,000 00	$8,300 00		$80,300 00	$79,719 54	$580 46
Cambridge Free Dispensary	1,000 00			1,000 00	1,000 00	
Care and Repairs of Bridges	7,500 00			7,500 00	6,065 55	1,434 45
Care, etc., W. Boston and Craigie's Bridges	45,500 00			45,500 00	33,002 84	12,497 16
Care and Repairs of Schoolhouses	50,000 00			50,000 00	47,508 93	2,491 07
Care and Repairs of Water Works	30,000 00	2,500 00		32,500 00	28,651 77	3,848 23
Cemeteries	16,000 00	3,438 66		19,438 66	19,438 66	
City Engineering	10,000 00			10,000 00	8,996 72	1 003 28
Compensation of Auditor of School Committee	150 00			150 00		150 00
Compensation of Sec. of School Committee	300 00			300 00	300 00	
Dana Library	6,000 00	50 00		6,050 00	6,040 04	9 96
Evening Schools for Adults	5,700 00	657 12		6,357 12	5,862 44	494 68
Extension of Water Works	160,000 00			160,000 00	153,170 67	6.829 33
Filling Low Lands	122,000 00			122,000 00	83,093 39	38,906 61
Fire Department	86,700 00	4,000 00		90,700 00	89,949 99	750 01
Hopkins Fund	900 00		$900 00			
Incidental Expenses	50,000 00		6,357 32	43,642 68	42,854 03	788 65
Instruction in Public Schools	157,000 00	2,525 00		159,525 00	159.524 25	75
Interest and Bank Discounts	279,000 00		4,913 66	274,086 34	273,900 96	185 38
Lighting Streets	21,000 00			21,000 00	20,919 04	80 96
New Schoolhouses and Alterations	45,000 00	500 00		45,500 00	44,111 99	1,388 01
Paving	25,000 00			25,000 00	22,567 51	2,432 49
Payment of City Debt	24,000 00			24,000 00	24,000 00	
Police and Watch	72,000 00			72,000 00	71,093 35	906 65
Police Court Room, etc., Ward One	66,000 00	8,000 00		74,000 00	59,760 36	14,239 64
Public Squares	3,500 00	700 00		4,200 00	4,064 62	135 38
Salaries of City Officers	20,500 00			20,500 00	20,500 00	
Scientific Department of High School	100 00			100 00	79 94	20 06
Sewers and Drains	30,000 00	20,000 00		50,000 00	41,042 78	8,957 22
Sewer in Binney Street	136,000 00			136,000 00	88,287 25	47,712 75
Sewer in Bridge Street	6,102 25			6,102 25	6,102 25	
Sinking Fund of Water Works	54,000 00		13,000 00	41,000 00	40,110 00	890 00
Sinking Funds	104,035 00			104,035 00	104,035 00	
Stationery and Printing	10,000 00		3,000 00	7,000 00	5,128 72	1,871 28
Streets	95,000 00			95,000 00	94,990 20	9 80
Supply Account of Water Works	15,000 00		2,500 00	12,500 00	12,498 59	1 41
Text-Books for High School	200 00			200 00	47 40	152 60
Truant Officers	5,500 00	.20		5,500 20	5,500 20	
Volunteers and their Families	22,000 00			22,000 00	22,000 00	
Watering Streets	15,000 00			15,000 00	13,042 71	1,957 29
Widening and Extension of Streets	24,600 00			24,600 00	20,811 86	3,788 14
Amount of Appropriations	$1,894,287 25			$1,914,287 25	$1,759,773 55	
Amount of Expenditures				1,759,773 55		$154,513 70
Balances Unexpended				$154,513 70		

The appropriation for Hopkins Fund was transferred to Instruction in Public Schools. The creation of a City Debt of $20,000 was authorized for Sewers, subsequent to the annual appropriations.

Dr. JOSEPH WHITNEY, TREASURER,

1874.		
Dec. 1.	Balance on hand	$144,403 12
	Of Cambridge Water Works, Rent of Office and Shop	600 00
	" " " Rates, Supplies, etc.	147,469 58
	State of Massachusetts, Corporation Tax	26,439 85
	" " National Bank Tax	22,498 95
	" " State Aid	16,650 00
	" " Armory Rents	400 00
	County of Middlesex, Rent Police Court Room	350 00
	" " Dog Licenses refunded	2,744 55
	Jordan, Marsh & Co., Discount on Bills	14 50
	City of Somerville, Catch Basins	172 77
	" " Its Proportion for Constructing Bridge Street Sewer	50,413 39
	Interest on Same	1,936 31
	Bridge Commissioners, Rent of Building, W. Boston Bridge,	50 00
	Tuition at High School of Non-Resident Scholars	161 00
	Trustees Hopkins Charity	958 93
	Sundry Persons, Bill for Carriage Hire refunded	341 52
	G. H. Copeland, Chief of Police, Balance of Appropriation for Decoration Day unexpended and refunded	95 00
	Use of Ropes and Stakes	5 00
	Geo. M. Brooks, Judge of Probate, Officers' Fees in Case of Juvenile Offenders	196 88
	P. H. Raymond, Chief Engineer, Proceeds of Old Hose sold	15 75
	Manure sold	90 00
	S. M. Parsons, Buildings sold	75 00
	J. A. Jacobs, City Clerk, Auctioneer's Licenses	44 00
	" " Circus "	30 00
	" " Junk "	495 00
	J. K. Farwell, Supt., Account of Cambridge Cemetery	12,921 85
	G. L. Cade, Supt., Account of Streets and Paving	770 22
	J. W. Averill, Warden, Account of Cambridge Almshouse	9,024 95
	A. L. Hayward, Librarian, Account of Dana Library	141 15
	T. McIntire, Jr., Clerk, Account of Police Court	4,412 09
	Jos. Whitney, Collector, Taxes of 1871	5 12
	" " " 1872	608 00
	" " " 1873	24,289 15
	" " " 1874	55,481 31
	" " " 1875	920,897 02
	" " Interest on Taxes	3,934 43
	Sundry Persons, Interest on Betterment, Paving, and Sewer Assessments, and Recording Deeds	246 86
	Sundry Persons, Weighing Fees	67 91
	" " Betterment Assessments	3,564 13
	" " Paving Assessments	26,037 43
	" " Drain Assessments	38,688 45
	" " Kent-Street Bridge Assessments	86 87
	" " Watering Streets	8,361 00
	" " Assessments for Abating Nuisances	833 10
	" " Grading Assessments Washington Street District	17,640 82
	Interest on Grading Assessments, Washington St. District	295 98
	Sundry Persons, Liquor Licenses	25,125 00
	" " Care of Lots, Cambridge Cemetery	400 00
	" " and Institutions Temporary Loan	620,657 04
	Bills Receivable, John Hillery's Note	216 50
	Sale of City Bonds, Funding Loan	25,560 00
	" " Building Loan	18,105 00
	" " Paving Loan	25,718 75
	" " Sewer Loan	109,066 25
	" " Water Loan	162,978 50
	" " Low Land Loan	129,930 00
	" " Street Widening Loan	14,910 00
	" " Bridge Loan	27,690 00
	Accrued Interest on Bonds, Funding Loan	600 00
	" " " Building Loan	425 00
	" " " Paving Loan	29 17
	" " " Sewer Loan	1,623 34
	" " " Water Loan	2,615 50
	" " " Low Land Loan	3,050 00
	" " " Street Widening Loan	350 00
	" " " Bridge Loan	650 00
	Proceeds of Sales of Real Estate	6,188 00
		$2,720,846 99

IN ACCOUNT WITH THE CITY OF CAMBRIDGE. Cr.

1874.		
Dec. 1.	By paid State of Massachusetts State Tax	$58,580 00
	" " " Bank Tax	4,341 88
	" County of Middlesex, County Tax	40,086 02
	" Sundry Persons, per Mayor's Drafts and Orders	1,327,903 23
	" " " and Institutions, Temporary Loan	620,657 04
	" " " Interest Permanent Loan	252,377 76
	" " " " Temporary Loan	21,523 20
	" " " City Debt	24,000 00
	" State of Massachusetts, under the Provisions of the Act to Regulate the Sale of Intoxicating Liquors	6,281 25
	" Commissioners, Sinking Funds of the City	246,901 86
	" " " Fund of the Cambridge Water Works, Accrued Interest on Water Bonds sold	2,615 50
	Balance on hand	115,579 25
		$2,720,846 99

JOSEPH WHITNEY, *Treasurer.*

ACCOUNT OF CITY DEBT, DECEMBER 1, 1875.

Date.	Rate.	To whom payable.	Amount.	Total.	When payable.	Interest paid to.
April 6, 1857.	5¾	Lowell Institution for Savings	$30,000 00		April 6, 1877.	Oct. 6, 1875.
July 1, 1858.	5	Cambridge City Bonds	7,000 00		July 1, 1878.	July 1, 1875.
July 1, 1859.	5	" "	15,000 00		July 1, 1879.	July 1, 1875.
Aug. 1, 1862.	5	" "	30,000 00		Aug. 1, 1882.	Aug. 1, 1875.
Sept. 10, 1862.	5	" "	40,000 00		Sept. 10, 1882.	Sept. 10, 1875.
Sept. 10, 1862.	5	" "	30,000 00		Sept. 10, 1877.	Sept. 10, 1875.
Nov. 20, 1862.	5	" "	14,000 00		Nov. 20, 1882.	Nov. 10, 1875.
Mar. 5, 1863.	5	" "	150,000 00		Jan. 1, 1893.	July 1, 1875.
April 1, 1864.	5	" "	100,000 00		April 1, 1889.	Oct. 1, 1875.
July 1, 1870.	6	" "	20,000 00		July 1, 1890.	July 1, 1875.
July 1, 1871.	6	" "	~~100,000 00~~		~~July 1, 1876.~~	July 1, 1875.
July 1, 1871.	6	" "	100,000 00		July 1, 1881.	July 1, 1875.
July 1, 1871.	6	" "	100,000 00		July 1, 1886.	July 1, 1875.
				$736,000 00		
July 1, 1856.	6	Water Loan: Cambridge City Bonds	50,000 00		July 1, 1881.	July 1, 1875.
May 1, 1865.	6	" " " "	1,200 00	300.	May 1, 1875.	May 1, 1875.
Aug. 1, 1865.	6	" " " "	55,000 00		Aug. 1, 1883.	Aug. 1, 1875.
July 2, 1866.	6	" " " "	100,000 00		July 2, 1886.	July 2, 1875.
April 1, 1867.	6	" " " "	150,000 00		April 1, 1887.	Oct. 1, 1875.
April 1, 1868.	6	" " " "	175,000 00		April 1, 1888.	Oct. 1, 1875.
May 1, 1869.	6	" " " "	112,000 00		May 1, 1889.	Nov. 1, 1875.
July 1, 1870.	6	" " " "	60,000 00		July 1, 1890.	July 1, 1875.
May 1, 1871.	6	" " " "	50,000 00		May 1, 1891.	Nov. 1, 1875.
Mar. 20, 1873.	6	" " " "	335,000 00		July 1, 1892.	July 1, 1875.
April 1, 1874.	6	" " " "	150,000 00		April 1, 1894.	Oct. 1, 1875.
April 1, 1875.	6	" " " "	157,000 00		April 1, 1895.	
				✓1,395,200 00		
Mar. 20, 1873.	6	Funding Loan: Cambridge City Bonds . . .	215,000 00		July 1, 1883.	Oct. 1, 1875.
July 1, 1874.	6	" " " " . . .	100,000 00		July 1, 1884.	July 1, 1875.
July 1, 1875.	6	" " " " . . .	24,000 00		July 1, 1885.	
				339,000 00		

ACCOUNT OF CITY DEBT, DECEMBER 1, 1875. 46

Mar. 20, 1873.	6	Paving Loan: Cambridge City Bonds	100,000 00		July 1, 1893.	July 1, 1875.
July 1, 1874.	6	" " " "	130,000 00		July 1, 1894.	July 1, 1875.
July 1, 1875.	6	" " " "	25,000 00		July 1, 1895.	
				255,000 00		
July 1, 1873.	6	Sewer Loan: Cambridge City Bonds	136,000 00		July 1, 1903.	July 1, 1875.
July 1, 1874.	6	" " " "	295,000 00		July 1, 1904.	July 1, 1875.
July 1, 1875.	6	" " " "	104,000 00		July 1, 1905.	
				535,000 00		
July 1, 1873.	6	Street Widening Loan: Cambridge City Bonds	10,000 00		July 1, 1903.	July 1, 1875.
July 1, 1874.	6	" " " " "	90,000 00		July 1, 1904.	July 1, 1875.
July 1, 1875.	6	" " " " "	14,000 00		July 1, 1905.	
				114,000 00		
July 1, 1873.	6	Building Loan: Cambridge City Bonds . . .	119,000 00		July 1, 1883.	July 1, 1875.
April 1, 1874.	6	" " " " . . .	198,000 00		April 1, 1884.	Oct. 1, 1875.
July 1, 1875.	6	" " " " . . .	17,000 00		July 1, 1885.	
				334,000 00		
July 1, 1873.	6	Street Loan: Cambridge City Bonds	13,000 00		July 1, 1893.	July 1, 1875.
				13,000 00		
July 1, 1873.	6	Land Loan: Cambridge City Bonds	10,000 00		July 1, 1893.	July 1, 1875.
				10,000 00		
July 1, 1872.	6	Low Land Loan: Cambridge City Bonds . .	15,000 00		July 1, 1882.	July 1, 1875.
July 1, 1873.	6	" " " " . .	271,000 00		July 1, 1883.	July 1, 1875.
April 1, 1874.	6	" " " " . .	240,000 00		April 1, 1884.	Oct. 1, 1875.
Oct. 7, 1874.	6	" " " " . .	56,000 00		Oct. 1, 1884.	Oct. 1, 1875.
July 1, 1875.	6	" " " " . .	122,000 00		July 1, 1885.	
				704,000 00		
July 1, 1874.	6	Bridge Loan: Cambridge City Bonds	94,000 00		July 1, 1884.	July 1, 1875.
July 1, 1875.	6	" " " "	26,000 00		July 1, 1885.	
				120,000 00		
Oct. 1, 1863.	6	Trustees Daniel White Charity	5,000 00			Oct. 1, 1875.
June 1, 1858.	6	Trustees Dowse Institute Fund	10,000 00			June 1, 1875.
Oct. 8, 1864.	6	Trustees Sanders Temperance Fund	10,000 00			Oct. 8, 1875.
				25,000 00		
		State Tax	58,580 00		Dec. 1, 1875.	
		County Tax	37,580 73		Dec. 31, 1875.	
				96,160 73		
				$4,676,360 73		

REPORT

OF THE

COMMISSIONERS OF THE SINKING FUNDS OF THE CITY.

The undersigned, Commissioners of the Sinking Funds of the City, respectfully submit the following report: —

Amount of the Funds Nov. 30, 1874 . .		$212,466 04
Received under the provisions of the Ordinance in relation to the Sinking Funds of the City, as follows: —		
Amount of Betterment Assessments,	$3,564 13	
Amount of Kent Street Bridge Assessment	86 87	
Amount of Paving Assessments .	26,037 43	
Amount of Real Estate sales . .	6,263 00	
Amount of Drain Assessments .	38,688 45	
Amount of City of Somerville on account of the cost of Bridge Street sewer	50,413 39	
Amount of City of Somerville for Catch Basins	172 77	
Amount of Assessments for grading Washington Street District .	17,640 82	
On account of outstanding Ten-year Bonds, six per centum . .	78,480 00	
On account of outstanding Twenty-year Bonds, three per centum .	7,590 00	
Amount carried forward	$228,936 86	

Amount brought forward	$228,936 86	
On account of outstanding Thirty-year Bonds, one and one half per centum	7,965 00	
On account of Funded debt of the City	10,000 00	
Interest on the Funds	12,594 38	
Of the City, interest on temporary loans	468 00	
		$259,964 24
		$472,430 28

The Funds are invested as follows :—

Bonds of the City of Cambridge	$472,239 67	
Cash	190 61	
		$472,430 28

ISAAC BRADFORD,
JOS. WHITNEY,
WM. L. WHITNEY,
GEORGE F. PIPER,
H. R. HARDING,
JOHN M. TYLER,
Commissioners of the Sinking Funds of the City.

CAMBRIDGE, NOV. 30, 1875.

REPORT

OF THE

TRUSTEES OF THE SINKING FUND OF THE CAMBRIDGE WATER WORKS.

The undersigned, Trustees of the Sinking Fund of the Cambridge Water Works, respectfully submit the following Report: —

Amount of Fund June 30, 1874 .		$251,598 68
Received of Registrar, for rates, supplies, etc., for the year . .	$161,901 12	
Less amount paid for care, repairs, etc. . . $49,484 62		
Interest on Water Loan, 85,404 00		
	134,888 62	
	$27,012 50	
Received of the City of Cambridge under the provisions of an Act passed the 20th of April, 1875 .	13,097 50	
		40,110 00
Interest on sundry temporary loans to the City	$2,568 99	
Accrued interest on Water Bonds sold	1,448 83	
Interest on Fund	16,955 21	
		20,973 03
Amount carried forward .		$312,681 71

Amount brought forward . . .		$312,681 71
Water Loan of 1865 paid, in part . . .		180,100 00
		$132,581 71
Accrued interest on Fund		1,747 50
Value of Fund June 30, 1875		$134,329 21

The Fund is invested as follows: —

Cambridge Water Bonds .	$91,041 25	
Temporary Loan to the City .	41,540 46	
		$132,581 71

ISAAC BRADFORD,
GEORGE F. PIPER,
JOS. WHITNEY,
} *Trustees of the Sinking Fund of the Water Works.*

CAMBRIDGE, June 30, 1875.

REPORT

OF THE

COMMISSIONERS OF THE CAMBRIDGE CEMETERY.

To the City Council:

The Commissioners of the Cambridge Cemetery herewith submit their Twenty-First Annual Report, for the year ending Nov. 30, 1875.

The receipts for the year have been as follows: —

Cash received for burial lots	$8,370 00
" " " care of lots	2,540 47
" " " burial fees	1,594 00
" " " hay	34 60
" " " sedge grass	2 00
" " " wood	24 10
" " " granite posts	356 68
	$12,921 85

The expenditures for the year have been as follows: —

Superintendent's salary	$1,500 00
Sundry workmen	13,434 35
Gravel, sod, and manure	2,648 64
Superintendent of old grounds, Ward One	12 00
Repairs of fence, old grounds	115 00
Other expenses	1,728 67
	$19,438 66
Excess of expenditures over receipts	$6,516 81
Total appropriation for the year	$19,438 66
" expenditure " "	19,438 66

The money deposited with the City Treasurer by owners of lots for the care of the same, in accordance with the providing ordinance, amounts to $900; on which there is due $38.24 for interest.

The number of lots prepared and ready for sale Dec. 1, 1875, was 78; and the number of lots sold, 78.

Whole number of interments for the year, 581, — being 106 more than for the year preceding, and making the whole number of interments in the Cemetery, 8,939.

It will be observed that the expenditures for the past year have been somewhat in excess of the receipts. This has been due to the carrying through of the project referred to in our last annual report, — that of filling up the peat basin in front of the Lodge.

In doing this work, gravel was obtained from a neighboring bank, and carted at a certain stipulated price per load. The entire cost was $6,180.79, to which will have to be added, hereafter, the expense of grading with loam and sodding. Half an acre of land has thus been reclaimed, and made available for burial purposes; supplying 49 new lots, each of an average size of 300 square feet, surrounding a central space designed for ornamentation. Aside from the general beautifying effects of the improvement, it will prove satisfactory as an investment, realizing, upon sale of the lots, a profit of about $6,000 or $7,000.

The Cemetery presents a pleasing appearance, and shows the careful attention of the Superintendent, in whom, your Commissioners desire to say, they have the most perfect and unabated confidence.

ISAAC BRADFORD,
JOHN M. TYLER,
CURTIS DAVIS,
GEO. T. GALE,
GEORGE R. BRINE,
WILLIAM PAGE,
GEO. S. SAUNDERS,

Commissioners of the Cambridge Cemetery.

Cambridge, Dec. 1, 1875.

REPORT

OF THE

COMMITTEE ON SOLDIERS AND THEIR FAMILIES.

The Joint Committee on Soldiers and their Families submits to the City Council its Report for the year ending Nov. 30, 1875.

The whole number of cases in which aid has been granted during the year has been 297. The number now on the list is 254.

The appropriation for volunteers and their families was	$22,000 00
The amount paid from said appropriation, to Nov. 30, as appears by the books of the Auditor, was	22,000 00

The payments of State Aid, as returned to the Auditor of the Commonwealth, are for the year ending Dec. 31, 1875, and amount to $19,100, of which sum, $17,820 will be reimbursed to the City by the State. The monthly payments now amount to about $1,700, and an appropriation of $21,000 will be sufficient for the ensuing year.

All which is respectfully submitted.

J. C. WELLINGTON,
JOHN H. LEIGHTON,
JEREMIAH MURPHY,
JOHN STONE,
} *Committee on Soldiers and their Families.*

REPORT

OF THE

BOARD OF OVERSEERS OF THE POOR.

To the Honorable the City Council of Cambridge:

Gentlemen, — At the close of the present municipal year it becomes the duty of the Overseers of the Poor to submit to your honorable body their annual report relating to the affairs of that branch of the public service under their charge.

The calls made upon the City's charity during the past year have been increased very considerably over those of the previous year.

The cause of this increase may be traced directly to the continued stagnation of business, and to the fact that large numbers amongst the laboring classes have been wholly unable to obtain employment.

These causes still continue. It seems probable that, during the present season at least, the calls for aid will be increased still further rather than diminished.

The Overseers have endeavored to meet all calls made upon them in a spirit of charity, giving aid with a generous, yet careful hand, looking both to the needs of the poor, and to the interests and economy of the City; and though they may have distributed sparingly, still it is believed that no case of extreme want or suffering has been allowed to exist.

There have been some few, no doubt, who, too indolent to work, have taken advantage of the sympathy awakened for the worthy poor, and have imposed upon the Overseers as well as upon the benevolence of private citizens. We have endeavored,

nowever, to give strict investigation to all cases coming before us, and have refused aid where, in our opinon, the applicant was deemed unworthy.

In the report of the Overseers made to the City Council of last year, it was suggested that the City furnish some sort of employment to those amongst the poor having families dependent upon them for support. This suggestion was adopted, and work at Fresh Pond furnished to three or four hundred laborers, affording great relief to those so fortunate as to procure the employment. But the supply of work has not been equal to the demand, and the Board, therefore, feel the necessity of again suggesting that further provision be made for the needy poor by furnishing them with work upon the streets, and in preparing material for the same, dispensing with the machinery as now used. This, we believe, to be a better method of relieving the wants of the poor who are able to work than the one which, supporting them in idleness, breeds habits of indolence and vice, and leads eventually to crime.

The number of inmates at the Almshouse still continues to increase, and at the last meeting of the Overseers in November the total number of inmates, as reported by the Warden, was 170, comprising 50 men, 40 women, 63 boys, and 17 girls. The average number has been 156, an increase of 27 over that of last year.

The house is now occupied nearly to its full capacity; and if the increase continues as it has commenced this fall, we shall require more room.

The large number of boys at the house is the result of the truant laws. For truancy, three-fourths of the present number have been sentenced to the house by the Police Court.

During the present year steam has been introduced into the house, proving a great improvement over the old method of heating by stoves. This change, however, will necessitate increased ventilation, the best method of procuring which has not yet been decided upon.

Owing to the increased number of inmates it was thought best to make more alterations in the interior of the building, so as to give more sleeping room, and also accommodations for

bathing and water closets. The work was done under the directions of the Committee on Public Property, and proved a great convenience.

The upper hall, formerly used for strawberry festivals, is put to the better use of a sleeping-room for boys.

There have been considerable alterations made during the past year, by removing and erecting fences, as also in finishing work begun last year. The labor required in these alterations has been performed by the paupers, thus costing the City but a small amount excepting in the items of lumber and hardware.

A large amount of labor has also been performed in the way of grading the grounds about the building, preparatory to the laying out of a new avenue to the house, all of which has been done with but little expense to the City, as the work was performed by the inmates at times when there was nothing else for them to do.

The past year has been a favorable one for the house, so far as regards the prevalance of contagious or malignant forms of disease. The deaths during the year have been only fifteen.

Dr. James R. Morse, who has filled the office of Almshouse Physician for the past thirteen years, and whose report accompanies this, still continues in that position, and gives general satisfaction.

The school at the Almshouse, numbering fifty-one boys and thirteen girls, and now in charge of Miss Jeanie A. Norris, as principal, and Miss Nellie A. Hutchins, as assistant, still continues to rank with the best schools of the City in discipline and good order, as well as in the progress made by the pupils.

This efficient condition is mainly due to the excellent management of the lady who has for many years had charge of the school, Miss Etta S. Adams, but whose valuable services have lately been lost to the City by her acceptance of a call to teach in the Blind Asylum, of London. We believe, however, that her successors are in every way qualified to continue the school up to its present high standard.

The Sunday School still continues under the charge of Mr.

Charles R. Patch, who appears to be particularly qualified for the good work in which he is engaged.

Under his careful and kindly management the school cannot fail in the future, as it is at the present, to be an important auxiliary in the training and reformation of those, and especially of the young, whom the City has in charge. Every other Sunday religious services are held at the house, presided over by some one of the different clergymen of the city. At these services all the inmates who are able are required to be present.

The House Offal department has been managed with as much economy as possible; but the expense still exceeds the income by a considerable amount.

And it is doubtful if the business could be conducted more lucratively under the existing city ordinances, which permit outside parties to collect swill from hotels and large boarding-houses, and transport the same through the streets. The better quality of offal must in this way be taken from the city, and leaves a lower priced article upon which to realize for expense in collecting.

The income derived from the sale of offal during the past year is $4,475.29, and the expense of collecting $7,136.00: this latter includes the wages of men employed, whose time has been wholly occupied in the business, and the time of horses used; also an estimated amount for repairs on wagons and harnesses.

There have been no additions made to the stock in this department, with the exception of one horse, which was taken from the farm.

During the past year the Board have adopted a code of by-laws for their better government and a more efficient management of the affairs at the house. As yet they have hardly had the full trial necessary to note their benefits and advantages; but should the incoming Board adopt them, and carry out what was originally intended, we believe they will result, not only in facilitating the management of affairs at the house and the labors of the Board, but also in economy to the City.

The Appropriation made by the City Council at the beginning of the year was	$72,000 00
Additional Appropriation	8,300 00
Total amount	$80,300 00
Whole amount expended	79,719 54
Balance unexpended	$580 46

The Receipts have been as follows: —

Products of Farm sold	$31 75
From Sale of House Offal	4,475 29
" " " Stone, old bills	897 41
" State, cities, and towns	2,591 44
For Board	918 86
From other sources	110 20
	$9,024 95

Amount due and uncollected: —

From Ledge, old account	$2,359 89
" " " " not good	2,371 36
" Sales of House Offal	296 36
" State, cities, and towns	890 24
For Board	121 42
" use of Scales and Weigher	125 00
	$6,164 27

Expenditures outside the Almshouse: —

Supplies in form of groceries, provisions, and house rents	$16,791 84
For boots, shoes, and clothing	775 51
" fuel	7,693 96
" medicines and doctors' bills	742 22
" aid paid towns and cities	2,841 08
" support at Public Institutions	5,890 29
" burials	1,072 25
	$35,807 15

Expenditures for the Almshouse: —

For salaries, and help of all description, except mechanics on repairs	$8,635 00
" groceries and provisions	8,350 00
" dry goods, clothing, boots, and shoes	2,466 73
" fuel, gas, and water	2,863 83
" grain and meal for stock	1,310 00
" tools, hardware, lumber, and mechanics' wages,	8,968 29
" blacksmith work and horseshoeing	520 40
" steam-heating apparatus	6,000 00
" sundry expenses not enumerated in the above,	4,798 14
	$43,912 39

Estimated expenditures at Almshouse for support of paupers	$16,000 00
Average number of paupers	156
Making a weekly cost for each pauper for food and clothing	$1 96
Estimated value of personal property at the Almshouse Nov. 30, 1875	$16,196 00

The products of the Farm have been the past year used on the premises for the support of the paupers and stock.

The estimated value of products raised is	$2,000 00

Remaining on hand unexpended: —

25 tons of hay, valued at	$700 00
2 tons of straw	50 00
75 bushels rye, unthreshed	160 00
300 bushels potatoes	180 00
Beets and turnips	179 00
1 ton of carrots	18 00
400 bedded cabbages	24 00
	$1,311 00

There have been admitted by permits from the Overseers the past year		184
Foundlings		3
		187
Sentenced to the Workhouse: —		
For drunkenness	19	
" common drunkards . . .	4	
" vagrancy	6	
" truancy	21	
" sundry other petty offences .	6	
		56
Number of tramps, 1 and 2 meals each . .		800

Respectfully submitted.

BENJ. F. WYETH,
GEO. D. CHAMBERLAIN,
S. M. PARSONS,
J. NEWMARCH,
} *Overseers of the Poor of the City of Cambridge.*

REPORT

OF

JAMES R. MORSE, M.D.

VISITING PHYSICIAN.

To the Overseers of the Poor of the City of Cambridge:

Gentlemen, — Having endeavored faithfully to discharge the duties devolving upon me as Almshouse Physician, during the current municipal year, it becomes my duty at its close to report to your board the amount and nature of the sickness which has required my attention and care during the present year; and you will allow me at the outset to call your attention to the fact that a very large proportion of those received at the Almshouse, to become inmates of the same, during the past twelve months, have been received while in a diseased condition, requiring a constant watch and care over them while struggling to control their many physical ailments, some of which have arisen from their former position in the lower strata of human society.

This noble institution of charity seems designed to receive and provide for all those classes in life who, from honest poverty, ill health, or from mental or moral causes, are not in a condition to provide for themselves the comforts of a home. The natural result, therefore, in a city with such a rapid growth as ours, is that the number seeking the benefits of such an institution as this must also be largely increased each year, thereby largely increasing the duties of those whom the city has elected to watch over and tenderly care for the many and varied wants of its inmates, the number of which has increased about one hundred per cent during the last eighteen months,

and the number of prescriptions prepared and administered has increased threefold in the last two years. It is therefore natural to infer that our almshouse is fast becoming a hospital, especially so for chronic diseases.

The amount of acute diseases this year has not varied very largely from that of former years; the number of cases increasing in proportion to the increase in the number of inmates in the institution.

We have, however, had a very large variety of cases of acute diseases, lung fever being the most common. During the last winter a severe influenza prevailed in an epidemic form. There were several days during its prevalence in which more than fifty persons at the house received prescriptions. Many of these cases assumed a very severe form of bronchial pneumonia. The whole number of well marked cases of true pneumonia which came under my care during the year is sixteen. There have also six cases of typhoid fever occurred the last season. Some of the cases above reported have been very severe, but none have proved fatal. One case of typhoid dysentery when taken to the house seemed almost hopeless, but the disease yielded to the kindly care and treatment which she received; also one case of typhoid pneumonia seemed for a few days very doubtful, but made a good and rapid recovery; and I am happy to be able to report to your board that all the cases of acute disease treated during the present year have recovered, except one case of membranous croup.

The whole number of deaths which have occurred at the house during the year is fourteen, from the following causes, viz. From consumption, four; from Bright's disease of kidney, one; from extreme debility and gangrene, one; from membranous croup, one; from convulsions, one; from disease of the heart, one. Also one case of spina bifida, in which the child lived two months with an imperfectly developed spinal column; and one case of cerebro-spinal meningitis, where death occurred in about twelve hours after receiving the patient into the institution. Also from insanity, marasmus, and paralysis, one each.

Three cases of confinement have occurred at the house during the year; and three have been received into the lying-in hospi-

tal very soon after their confinement for medical treatment, and each received the kindly, tender care of the matron and her assistants until they had fully recovered. The number of foundlings received at the house during the year is four, two of which are now in the institution. During the present year there has been a large number of inmates whose uniform condition is that of disease and debility, requiring my daily attendance; and also an examination of each department of the institution, hoping by a strict fidelity to the interest and welfare of the decrepit and wayworn that many of their ills and sufferings may be greatly relieved. It also affords me great pleasure to report that the most perfect harmony exists in every department of the institution in our official relations and duties, each feeling that a kindly, forbearing spirit will best secure to this noble charity the highest type of success. And, gentlemen, you will allow me in closing to suggest that the many and important changes made by order of your board, in regard to the manner of heating the house, in regard to its ventilation, and changing the forms and uses of some of the apartments, will prove to be not only a sanitary measure, but will also contribute very largely to the comfort, convenience, and safety of all the officers and inmates of the institution.

I also desire to renew the expression of my gratitude to you for your continued confidence, and for the oft-repeated manifestations of personal and official kindness which I have received at your hands.

Respectfully submitted.

J. R. MORSE.

Cambridge, Dec. 6, 1875.

ANNUAL REPORT

OF THE

CHIEF ENGINEER OF THE CAMBRIDGE FIRE DEPARTMENT,

FOR THE YEAR ENDING NOV. 30, 1875.

CHIEF ENGINEER'S OFFICE, CITY HALL,
CAMBRIDGE, NOV. 30, 1875.

To his Honor the Mayor and the Honorable City Council of Cambridge:

GENTLEMEN, — In accordance with Section 6 of the Ordinance in relation to the Fire Department, I herewith respectfully submit my Fifth Annual Report of the Steam Fire Department of Cambridge.

The Report contains a statement, showing the condition of the Department, and also a record of fires which occurred during the year beginning Dec. 1, 1874, and ending Nov. 30, 1875, with the amount of loss and insurance as far as ascertained. The names and ages of the members are also given, with the rank of each.

MEMBERSHIP.

The number of members of the Department is 121, remaining the same as reported in 1874, and which comprises a Board of Engineers, consisting of a Chief and four Assistant Engineers, five Steamer Companies, of fourteen men each, two Hook-and-Ladder Companies, of twenty-one men each, a Relief Engineer, two telegraph operators and repairers, and one driver of independent Supply Hose No. 1.

THE APPARATUS AND EQUIPMENTS.

The apparatus and general equipment of the Department have been maintained and a standard of effectiveness preserved. No new apparatus has been required to be purchased during the year, and repairs have only been made when found absolutely necessary. The steamers are generally in good working condition, excepting Steamer 5, which has required more repairs than any other piece of apparatus. This is readily accounted for, as the steamer responds to every alarm, and therefore performs an amount of service no other steamer is called to perform. Besides this, the apparatus is old, having been built in 1863, and is consequently much worn and shaken. This engine is one of the earliest patterns of the manufacturers, and is therefore devoid of the improvements more recently introduced. There is operated with this engine a hose-carriage having but two wheels, a vehicle in every way unfitted for the work, and which should be displaced at the earliest possible moment. Its introduction into the service one year ago was owing to circumstances which rendered its use imperative, as a hose-carriage with four wheels could not be procured at that time. A similar carriage was also put into commission one year ago as an independent hose-carriage to furnish extra hose at fires when needed. While its service has been valuable, yet objection is made to its further use by reason of the danger to which the driver is subjected when going to a fire by the possible stumbling of the horse, owing to the back-burden which the horse is obliged to carry. I would recommend that two four-wheeled carriages be procured at an early day: one for Supply Hose No. 1, and one for Hose No. 5. The wagon built for the fire alarm telegraph service in 1874, has proved its usefulness, and it is a valuable adjunct to that branch of the service.

The Department is possessed of a spare steam fire-engine which has performed its mission, and which might be disposed of in exchange for apparatus which will prove of more benefit. This engine was built in 1862, and rendered constant service until 1872, when it was superseded by an engine of an improved

pattern. The old hand-engine No. 4 is still the property of the City, and awaits a purchaser.

STEAM CIRCULATING HEATERS.

The value of the apparatus bearing the above name was alluded to in a former report in connection with the introduction of one of them into Engine House No. 3, where it was attached to the engine for the purpose of maintaining a pressure of steam in the boiler of the engine at all times. Since the introduction of the first heater additional ones have been procured and placed in Engine Houses Nos. 2, 4, and 5, the first two houses not having been prepared to receive them at an earlier date, and the last-named house only having been first occupied on the very last day of the fire year, Nov. 30, 1874. These heaters are all that are claimed for them. One other heater will soon have to be purchased for Engine No. 1, upon its removal to its new quarters.

CONDITION OF THE DEPARTMENT.

The Department has commendably maintained order and decorum during the year, and has exhibited an efficiency worthy of each person connected with it. Reprimand has been passed upon three members for dereliction of duty in absenting themselves from their engine stations without proper leave of absence. In the cases referred to each person offered extenuating reasons, which were, in the main, that their actions had been controlled more by a want of judgment than by a desire or intention to violate the discipline of the service. One member has been discharged from the Department for not responding for the performance of duty on occasions of alarm. While it is mortifying to report these cases, yet it is a gratifying source of knowledge that no occasion has been presented requiring the exercise of authority to a greater extent. The firemen of the present day are imbued with a spirit of brotherly love, and therefore are not controlled by jealousies or enmities which were, under the volunteer system, the baneful elements of that service. Under the paid system, the men feel

the importance of the position, and are actuated by a desire to perform their duty, and to preserve their self-respect. The "rowdy fireman," in this City, surely, has long since become one of the things of the past, and the service has become such as to merit the good opinion of the people. The members of the force are composed principally of mechanics, — hale, rugged men, — who, in summer's heat or winter's cold, leave their workshops or their beds when the alarm summons them, and valiantly battle to subdue man's greatest foe. These men are nearly all men of families, and it is their greatest aim, notwithstanding the dangers of the service, to rally to the succor of those endangered by fire. To them much of the success of the service is due; and I should be recreant to myself, did I not recognize their good conduct and their promptness to duty.

FIRE HYDRANTS.

Prompt and energetic action on the part of the Water Board has secured for service in case of fire a more enlarged volume of water. The Harvard Street District, heretofore having an inadequate supply of water, has been provided for by the laying of a 12-inch pipe from Lee Street easterly. Upon this long line of pipe a requisite number of hydrants has been located, so that now the property abutting is afforded ample protection. Large water mains have also been laid in Green, State, Osborn, and other streets, and fire hydrants connected therewith. An improved fire hydrant, known as the "Perkins Improved Fire Hydrant," has been procured and some fifteen of them set. The advantage claimed for these hydrants, over those of different construction, is in the manner in which the valve operates. Instead of the valve being operated upwards it is forced downwards below the water supply, thus giving a full volume of water to the hydrant, and hence a greater supply to the fire apparatus which may be connected with it.

The deep interest exhibited by the Water Board and the Superintendent of the Water Works, as shown in the laying of large water mains and the location of fire hydrants for the better protection of property against fire, merits the fullest appre-

ciation of this Department; and I here desire to express my personal acknowledgments for the increased water facilities which are now enjoyed. During the year, Mr. Dudley, the Superintendent, has located, where desired by the Chief Engineer, 68 hydrants, being an increase of 16 over the number set in 1874. The total number of hydrants now in the city is 531. A few hydrants of the old flush or service pattern have been discontinued, and their places supplied with the post or plug pattern, which pattern only will be used hereafter.

The extreme severity of the winter of 1874–5 caused the fire hydrants to freeze to an extent not heretofore known. The frost penetrated the earth to a depth of five and six feet, freezing the branches leading from the street mains, and also so chilling the hydrant barrels as to cause the valves to freeze. It was required, for the public protection, to employ men in each section of the City to keep the hydrants open night and day. The expense of labor was augmented by the purchase of light materials used to thaw the hydrants when found frozen. The cold was of long continuance, and hence a protracted employment of men to attend to the unusual labor was found necessary. In no instance, however, was a hydrant found frozen when its use was required.

Hydrants have been set in the several wards as follows: Ward One, 18; Ward Two, 21; Ward Three, 2; Ward Four, 23; Ward Five, 4: making a total of 68, or an increase of 16 over the number set in 1874.

Of the hydrants located, 3 were of the old flush pattern, which were only temporarily placed in position on a small line of pipe; 2 post hydrants were set in substitution for those of the old style; and 5 flush hydrants were discontinued in neighborhoods where post hydrants were attached to larger water mains.

HORSES OF THE DEPARTMENT.

The number of horses connected with the Department is 21, no increase having been made since the last report. Some changes have been made by exchanging horses rendered unfit for longer service by reason of disease, or from other causes.

During the coming year it may be found necessary to dispose of two or three horses now in the service in exchange for younger and kinder creatures. The recent horse disease affected every horse in the Department to such an extent as to require the services of a well-tried and faithful veterinary. Under his skilful treatment the sick creatures were recuperated, and are now in excellent health.

FIRE ALARM TELEGRAPH.

This indispensable branch of the service still continues to prove its value. Since the last report important additions have been made to it by order of the City Council. Three street signal boxes have been located as follows: No. 21, at the corner of Allston and Sidney Streets, in place of No. 23, removed to the intersection of Pearl and Auburn streets; No. 39, at the corner of Magazine and Chestnut Streets, and No. 74, at the corner of Dublin and Railroad Streets. A new tower has been erected on the Putnam Schoolhouse, a bell weighing 1,532 pounds purchased and placed therein, and the fire alarm striker removed from the tower of the Unitarian Church, Third Street, to the new tower. The bell is of excellent volume and tone, and is distinctly heard at the Lower Port at all alarms; and also in a portion only of Ward Three in the daytime. Complaint has been made that, owing to the noise of business or mechanical pursuits, and street travel, the alarm is not heard sufficiently clear in the daytime in that Ward. Such was the complaint before the change was made from the Unitarian Church bell, and I can conceive of no other method than to have a heavier bell cast or renew the ringing of the church bells, — a practice which heretofore annoyed the citizens, and which, with its reintroduction, would create the same feeling of discontent. I will leave the matter for your consideration. By the erection of the new City Building in Brattle Square ample accommodations are promised for headquarters of the telegraph. A commodious room has been set apart for battery purposes, a convenience which has long been desired, and which is now being fitted up for the reception of the battery as soon as the

apartment is made ready, which, I trust, will be before Jan. 1, 1876.

Next adjoining this room is another of satisfactory capacity, which will be used for the telegraph repeater, and which will be furnished in a proper manner for its reception. An entire new system of wires has been run from the old station in Church Street to the new building, citizens owning property on the line of route having kindly granted permission to the City to fasten brackets or tripods to their buildings for attachment of the wires. The telegraph has performed its work satisfactorily and well during the year, which it will always do if properly handled. In the early part of the year malicious persons interfered with the telegraph and caused needless alarms to be given; but upon action being taken by the City Government, in offering a reward for the detection of those engaged in the mischief, no further malicious alarms were given, and the practice was thus stopped. The giving of an alarm from two boxes for the same fire on a recent occasion produced a confused striking of the gongs and bells, and for the moment led the firemen astray. With this exception the telegraph has worked in an admirable manner, reflecting credit upon those in charge of it. The telegraph service now consists of about 60 miles of wire, 53 street boxes, 9 engine-house gongs, 9 engineer's or police gongs, 3 tappers or call-bells, 4 repeaters, 5 galvanometers, 1 switch board, 5 bell-strikers, 2 sounders, and the necessary magnetic machinery, including 300 battery cups in battery room.

Additional street signal boxes are required, and I would recommend the purchase of a proper number to be located in such districts as are not now provided with them. I would also recommend the placing of a bell and striker in the tower on Engine House No. 5.

DEPARTMENT HOSE.

The equipment of hose is one of the essentials of the Department; and no objection should ever be urged against its purchase when required. Effort may be made at times to postpone the

buying of hose unless it can be purchased for a price almost ruinous to the manufacturer. Experience has taught managers of fire departments that the best is the cheapest, for instances have been known where competition has been the means of introducing untrustworthy articles of fire equipment under the lowest-bidder system of awarding contracts. The principle is a wrong one in most cases, and particularly in the matter of hose, which should be of first quality at all times, to secure by its use the extinguishment of fire. The use of leather hose has always been observed in this Department, and I would not recommend the purchase of any other kind, however much it may be extolled by canvassers or drummers, or even gentlemen interested in municipal matters who may not know the character of the goods they may advocate the introduction and purchase of. It is not advisable or prudent to experiment where a conflagration is threatened.

Leather hose has carried us safely along for half a century, and, while other kinds of hose may be more flexible and easier to handle, the old servant has been true, and should not be discarded after so long a service, unless some superior article shall have been produced. During the year 2,500 feet of leather hose were purchased of the firm of James Boyd & Sons, of Boston, and 500 feet of a textile fabric were purchased by the Committee on Fire Department of another concern, upon representations of its superiority and low price. A small quantity of hose will need to be purchased the coming year to make up deficits existing by the discarding of old hose, which for many years has been in use. There are 12,400 feet of hose in the service, 11,900 feet being of leather, and 500 feet of a textile fabric. Of this whole amount, 10,150 feet are in good condition, and 1,650 feet ordinary, while 600 feet are worthless.

NEW FIRE APPARATUS.

The needs of the service require the purchase of two new four-wheeled horse hose-carriages, one for Steamer No. 5, and one for Supply Hose No. 1, to take the place, in both cases, of the unsafe and unwieldy two-wheeled carriages now in use.

Both of these carriages were discarded from the service some four years since, and were only reinstated upon the commissioning of No. 5 and the Supply Hose. They are dangerous vehicles to ride upon, and already one of the drivers has been thrown from his seat, without, however, causing him much injury. The liability to serious accident exists at all times, more particularly should the horse attached to the carriage stumble and fall, thus rendering the driver liable to be thrown violently from his seat. I believe that further delay in procuring other vehicles may occasion deep regret. The apartments set apart for a hook-and-ladder truck in the new City Building, in Ward One, are well adapted for such use, and the question therefore arises: At what time will a suitable hook-and-ladder truck with equipments be procured, and a company be appointed to take charge of it? That there is possible need for such apparatus in that section of the City there can be no doubt, and it will rest with the City Council when such a "consummation devoutly to be wished" shall be inaugurated. Wards One and Five are so far removed from the benefits of early ladder service as to occasion the expression, at least, that means should be furnished to give that form of protection to those two wards. I would, therefore, recommend the introduction of a truck and company at as early a day as may seem consistent with the financial condition of the City.

A new engine is decidedly needed for Engine Co. No. 5, the present engine being much worn and unfitted for continuous service. Its use as a spare or relief engine could be made available at such times as necessity required; but for a permanently employed piece of apparatus its use is not economical, as it requires frequent repairs from breakages, etc., owing to its long service in the Department. To take its place, I would recommend the purchase of a self-propelling engine of second-class capacity. This style of engine is fast gaining popularity and has found introduction into several of the larger cities of the country, New York now having six of them in constant service. Of their utility I have heard the highest praise, the managers of the New York Department having personally expressed to me their fullest confidence in them. Similar

expressions have reached me from Brooklyn, N. Y., Detroit, Mich., and also from Boston, where one is now in service in one of the outlying wards, of which the Fire Commissioners of that city speak in the most flattering terms. The advantages claimed for this style of engine are not that they work better than other engines at fires, but that, first, they can be propelled by the steam, which is necessary to be kept up at all times in our steam fire-engines, without material increase of expense; and second, that the owning and keeping of horses are thus done away with, saving a large amount of expense per annum. The engine is so arranged that it has, besides its propelling power, a reverse power, which enables it to proceed as rapidly backwards as it can be made to go forward. A personal observation of the movements of a self-propelling engine, and the fullest inquiry as to its merits, assure me that an engine of this kind should be purchased, and thus not only secure more rapid movement, but also dispense with the keeping of horses, an item of considerable consequence. I will leave the question for your consideration, trusting that an early and favorable judgment will be formed.

PREVENTION OF FIRE.

I cannot allow this opportunity to pass without again calling your notice to the pressing necessity of enacting an ordinance which will prevent the erection of a class of buildings destined erelong in case of fire to cause a fearful loss of life and a terrible destruction of property. I do therefore respectfully say, that unless action is soon taken to prevent the erection of frail tenement houses, having no safeguards against fire, and with no ladders or stairways for escape in case of fire, you will witness such a sacrificial holocaust as will cause the keenest regrets to be felt that this work of prevention had not sooner been attended to. I beg of you, in this my fifth annual appeal, to consider this matter, and by your votes pass an ordinance which will say to grasping landlords, you must assure protection to your tenants against fire, and you must provide for them means of escape should that form of distress come upon them.

I would also ask your consideration of the custom which allows the storage of large quantities of petroleum and other combustible and inflammable products.

FIRES AND ALARMS.

It is a source of gratification to say, that the losses by fire during the past year have been unusually small, although the fires and alarms have been as numerous as in former years. Fires have occurred in localities where, but for the prompt responses of the firemen, the loss would have been exceedingly large. The firemen are imbued with a spirit of alacrity; and when the telegraph announces the presence of fire, they almost fly with their apparatus to the place of burning, all determined to bend their energies to a successful staying of the flames. To this promptness may be ascribed the source of success which has attended the firemen in their efforts to prevail over the foe they are at all times ready to battle with. The wearing of harness at all hours of the day and night upon the horses, and the ready means employed in hitching them up on occasion of alarm, enable our firemen to lose no time in getting out with their apparatus, and proceeding with the utmost speed to the box from which the alarm was given. Our City, comprising principally wooden structures, and liable to conflagration at almost any time, has thus far been exempt from serious loss; and it behooves every citizen to make personal effort to secure the passage of controlling laws to prevent carelessness in the construction of buildings, and the plying of dangerous trades in them when built.

Assistance has been rendered to our neighbors in Brighton, Charlestown, Somerville, Arlington, and Belmont, and assistance has been received from Somerville and Arlington. An understanding exists between this Department and the Boston Fire Department whereby mutual service is guaranteed to either city in case of fire, — a neighborly feeling which has long existed, and which should always be entertained. Our neighbors in Somerville and Arlington are also imbued with the same desire, thus establishing a reciprocity of feeling between this

Department and the departments of the places named, which will secure cheerful aid should destructive calamity by fire make visitation. To perpetuate the good-will now existing will be my highest aim.

DEPARTMENT HOUSES.

The houses occupied for Department uses are all in good condition, excepting that of Mayor Bradford Truck Co. No. 2. This house was erected in 1873, at small expense, and of light materials, being intended only for temporary use, or until such time as it should seem expedient to erect a more substantial and less unpretending structure. The building is cold and damp, and the occupants of it have been subjected to sickness contracted therein.

The building is 80 feet long, 20 feet wide, and 15 feet in height, and has more the appearance of a storage depot on the line of a railroad than anything else it may be compared with. A better building is needed, and your attention is solicited to an inspection of this low, long, rakish piece of property, owned not by an individual, but by the City of Cambridge.

APPROPRIATIONS, RECEIPTS, AND EXPENDITURES.

The appropriation for this Department made at the beginning of the fiscal year amounted to $86,700, to which an additional appropriation of $4,000 was added near the close of the year, making an aggregate of $90,700, or $6,660 less than was appropriated in 1874. The total of expenditures for the year beginning Dec. 1, 1874, and ending Nov. 30, 1875, amounted to $89,949.99, leaving an unexpended balance of $750.01.

Of the principal items of expenditure for the year, it is proper to say that the sum of $44,533.04 was paid as compensation to members of the force. The following other large sums, authorized by vote of the City Council, have also been paid: Balance on contract, Atwood's Corner Engine House, $4,921.07; heating apparatus, $2,683.49; New Hose, $4,213,04; Signal

boxes, bell, and tower, and other expenses of the Fire Alarm, $3,869.87.

The following statement will show in brief some of the principal items of expenditure during the year ending Nov. 30, 1875: —

Services of members, including salaries of Engineers		$44,533 04
New hose and repairs		7,607 62
Repairs and materials		6,527 10
Atwood's Corner Engine House, balance of contract		4,921 07
Expenses of fire alarm, including signal boxes, bell, and tower		3,867 87
New furniture for engine houses		3,791 50
Hay, grain, and straw		3,676 96
Fuel, gas, and water, engine houses		3,340 23
Heating apparatus, engine houses		2,683 49
Horses and exchanges, Nos. 2 and 5, and Fire Alarm		1,475 00
Harnesses and repairs		786 90
Miscellaneous expenses		6,739 21
		$89,949 99
Appropriation	$86,700 00	
Additional Appropriation	4,000 00	
		$90,700 00
Amount of expenses		89,949 99
Balance unexpended		$750 01

There have been received from the sale of old hose $15.75, and from the sale of stable manure $90.00, making a total of receipts from all sales of $105.75, which amount has been handed to the City Treasurer and his receipt taken therefor.

CAMBRIDGE FIREMEN'S RELIEF ASSOCIATION.

This Association of Firemen continues to be the almoner of relief to those of its members who may be incapacitated by

sickness or accident resulting from the performance of duty as firemen. The organization still receives generous contributions from the citizens, and has deposited in the Cambridgeport Savings Bank the sum of $3,296.01, accumulated since 1871, from donations, assessments, etc. From this amount there has been expended the sum of $1,020 for the relief of sick, and the burial of deceased members.

The Association is in every way worthy of public notice.

The following named are officers of the Association: —

President. — P. H. Raymond.
Vice-President. — William H. Emory.
Secretary. — Charles Emerson.
Treasurer. — William B. Cade.

Trustees.

P. H. Raymond.	Benjamin Young.
William H. Emory.	Francis P. Scanlan.
William B. Cade.	Charles Emerson.
Thomas J. Dale.	James J. Fleming.

Jeremiah S. Hobbs.

ACKNOWLEDGMENTS.

His Honor the Mayor, and the heads of the several departments of the City, will please accept my thanks for the urbanity and respect exhibited towards me, personally and officially. I desire to express my acknowledgments to the City Council for the cordial support of such measures as I have had the honor to recommend or suggest, and my thanks are hereby tendered to Aldermen Howard and Greely, and Councilmen Sanborn, Graham, and Kempton, Committee on Fire Department, for the cordiality shown me at all times.

The hearty co-operation of the Board of Engineers, and their promptness in the performance of duty, merit the fullest appreciation. The members of the force are also entitled to the sincerest thanks of the undersigned for their good behavior, and for their devotion to the interests of the service.

The Cambridge Police Force, to which none is superior, will accept the acknowledgments of this Department for their

valuable service at fires in preserving order and protecting property.

The Board of Fire Commissioners of the City of Boston, and Chief Engineer William A. Green, of the Boston Fire Department, will also please accept my thanks for courtesies extended.

To Chief Engineer Hopkins, of the Somerville Fire Department, Chief Engineer Hobbs, of the Arlington Fire Department, and the companies under their command, I feel myself deeply indebted for valuable assistance rendered at fires in this City, for which I tender my thanks.

To all others who have rendered service I feel under deep obligation.

Respectfully submitted.

PATRICK H. RAYMOND,
Chief Engineer Cambridge Fire Department.

APPENDIX.

Committee on Fire Department.

ALDERMEN . . . . . Howard and Greely.
COUNCILMEN . . . . . Sanborn, Graham, and Kempton.

Board of Engineers.

Name.	Rank.	Age.	Occupation.	Residence.	Salary per annum.
Patrick H. Raymond,	Chief	45	Reporter	10 Pleasant St. .	$1,200 00
Thomas J. Casey . .	1st Assistant .	42	Carver	173 Cambridge St.	400 00
Richard F. Tobin . .	2d Assistant .	31	Iron Moulder . .	5 Winsor St. . .	400 00
Daniel O'Connell . .	3d Assistant .		Clerk	219 North Ave. .	400 00
John P. Farmer, Jr. .	4th Assistant,	33	College Purveyor,	29 Mellen St. . .	400 00
John P. Farmer, Jr. .	Secretary.				50 00

Cambridge Steam Fire Engine Co., No. 1.

House on Church Street.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Edward E. Priest . .	Engineer,	38	3	Engineer	$100 00
Hiram W. Hooker .	Driver,	37	5	Driver	85 00
Robert T. Hixon . .	Driver,	31	10	Driver	85 00
William H. Emory .	Foreman,	42	1	Printer	18 33
Charles W. Brackett .	Assistant,	39	2	Bookkeeper . . .	17 50
John L. Jones, Jr. .	Fireman,	24	4	Printer	16 67
John K. Perkins . .	Hoseman,	26	12	Cabinet Maker . .	16 67
Hugh T. Barker . .	"	25	14	Gas Fitter	16 67
Thomas W. Jones . .	"	26	8	Electrotype Finisher,	16 67
John Byron	"	25	9	Painter	16 67
John H. Brown . .	"	24	13	Cigar Maker . . .	16 67
Edward E. Keyes . .	"	24	7	Bookbinder . . .	16 67
Frank C. Mullett . .	"	22	11	Confectioner . . .	16 67
John E. Belcher . .	"	22	6	Clerk	16 67

The engine operated by the above company was built by the Amoskeag Manufacturing Company, Manchester, N. H., and is rated as second-class. It is supplied with one steam cylinder $8\frac{1}{2}$ inches in diameter, one double-acting, vertical plunger pump $4\frac{3}{4}$ inches in diameter, with 12-inch stroke. The engine is supplied with two copper tanks, which contain a supply of fresh water, to be used when drafting sea water. The engine, when worked to its full capacity, will discharge 400 gallons per minute. Put in service Sept. 18, 1864.

Union Steam Fire Engine Co., No. 2.

House on Main Street, near Winsor.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Thomas Wiseman . .	Engineer,	31	17	Engineer	$100 00
John H. Walker . .	Driver,	46	19	Driver	85 00
William H. Foss . .	Driver,	35	27	Driver	85 00
William B. Cade . .	Foreman,	41	15	Polisher	18 33
Daniel McCarty . .	Assistant,	39	21	Blacksmith	17 50
Amos B. Jarvis . .	Fireman,	31	24	Bookbinder . . .	16 67
Charles E. Snow . .	Hoseman,	35	26	Painter	16 67
Arthur C. Day . . .	"	38	25	Box Maker	16 67
James Cunningham .	"	33	28	Wood Turner . . .	16 67
Benjamin D. Foss . .	"	39	18	Carpenter	16 67
Edward Brady . . .	"	29	16	Iron Moulder . . .	16 67
Charles E. Conner . .	"	24	23	Machinist	16 67
Joseph Fellows . . .	"	24	22	Clerk	16 67
Albert T. Sawyer . .	"	32	20	Painter	16 67

The engine in charge of this company was contracted for in August, 1873, and put in service Nov. 28, 1873. The engine is of second-class construction, and was built by the Amoskeag Manufacturing Company, Manchester, N. H., where the several engines in the Department were constructed.

The boiler contains 301 brass tubes, each tube being 18 inches long and $1\frac{1}{4}$ inches in diameter. The main forcing pump, double-acting and made of brass, measures $4\frac{1}{4}$ inches in diameter, and has a stroke of 8 inches. The steam cylinders have a diameter of $6\frac{7}{8}$ inches, and an 8-inch stroke.

The weight of engine with fuel and water is 6,250 pounds.

Niagara Steam Fire Engine Co., No. 3.

House on Fourth Street

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Hiram Blood. . . .	Engineer,	43	31	Engineer	$100 00
James S. Casey . .	Driver,	39	33	Driver	85 00
Lorenzo H. Dale . .	Driver,	33	34	Driver	85 00
William Parker . .	Foreman,	35	29	Carver	18 33
Michael G. Collins .	Assistant,	31	36	Painter	17 50
Elliott E. Alley . .	Fireman,	39	30	Upholsterer . . .	16 67
John Casey	Hoseman,	25	41	Britannia Worker .	16 67
William F. Newman .	"	29	38	Wood Worker . . .	16 67
Thos. J. Dale . . .	"	34	32	Fish & Oyster Dealer	16 67
Michael Kelly . . .	"	36	37	Glass Blower . . .	16 67
Edwin Winward . .	"	29	39	Box Maker	16 67
Geo. F. Batchelder .	"	25	42	Machinist	16 67
Alexander S. Atkins.	"	30	35	Saloon Keeper . .	16 67
John F. Dowling . .	"	27	40	Glass Blower . . .	16 67

The engine in charge of this company was contracted for in 1871, and put in service Jan. 19, 1872, and is a fine and very powerful specimen of steam machinery used for the extinguishment of fires. Like all other steamers owned by the City, it was built by the Amoskeag Manufacturing Company, of Manchester, N. H. The engine is of first-class construction, and has a boiler 32 inches in diameter and 66 inches long, containing 301 brass tubes, each tube being 18 inches long and $1\frac{1}{4}$ inches in diameter.

The main forcing pump is $4\frac{3}{8}$ inches in diameter, and has a stroke of 8 inches in length. The steam cylinders measure $7\frac{3}{4}$ inches in diameter, with a stroke of piston of 8 inches.

The engine is complete in every particular, and, while being very beautifully ornamented and showy, is capable of discharging 600 gallons of water per minute.

Daniel Webster Steam Fire Engine Co., No. 4.

House on North Avenue, near Russell Street.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
John E. Ricker . . .	Engineer,	31	45	Engineer	$100 00
George T. Presby . .	Driver,	33	47	Driver	85 00
George E. Muzzey. .	Driver,	33	48	Driver	85 00
Benjamin Young . .	Foreman,	31	49	Carpenter	18 33
Nathaniel W. Bunker,	Assistant,	32	55	Carpenter	17 50
Sylvanus G. Griffin .	Fireman,	28	50	Machinist	16 67
John H. Cannon . .	Hoseman,	27	44	Clerk	16 67
John L. Sproul . . .	"	24	54	Plumber	16 67
George E. Gilkey . .	"	28	43	Clerk	16 67
Herbert A. Murch. .	"	25	52	Carpenter	16 67
William H. Harrison,	"	27	50	Bill Poster	16 67
Edwin H. Locke . .	"	29	53	Provision Dealer . .	16 67
Thomas J. Benwell .	"	24	56	Clerk	16 67
Eugene Frost . . .	"	30	51	Carpenter	16 67

The engine controlled by this company is of the double pump, second-class, small size pattern, with $4\frac{1}{8}$-inch pump cylinders, and 8-inch stroke, steam cylinders $6\frac{7}{8}$-inch diameter, and 8-inch stroke; and, without fuel or water, in weight 5,800 pounds. It was built by the Amoskeag Manufacturing Company, of Manchester, N. H., and put in service May 28, 1869.

P. H. Raymond Steam Fire Engine Co., No. 5.

House corner Hampshire and Inman Streets.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Charles E. Berry . .	Engineer,	28	102	Engineer	$100 00
Joseph P. Cartwright,	Driver,	39	104	Driver	85 00
Francis P. Carr . .	Driver,	31	105	Driver	85 00
Francis P. Scanlan .	Foreman,	29	100	Painter	18 33
Cornelius J. Donovan,	Assistant,	31	101	Wood Turner . . .	17 50
Charles W. Porter .	Fireman,	27	103	Clerk	16 67
Dana R. Hovey . . .	Hoseman,	36	106	Clerk	16 67
John D. DeRonde .	"	36	108	Cabinet Maker . .	16 67
Conrad D. Kinnear .	"	36	107	Clerk	16 67
James Glynn . . .	"	24	109	Iron Moulder . . .	16 67
Charles H. Barker .	"	22	110	Confectioner . . .	16 67
George W. Butler . .	"	36	111	Engineer	16 67
John Fitzgerald . .	"	28	112	Iron Moulder . . .	16 67
Thomas E. Banfield .	"	33	113	Mason	16 67

This company operates an engine of the same style of construction as No. 1, also built by the Amoskeag Manufacturing Company, and put in service Aug. 1, 1863, under charge of Engine Company No. 2. By the purchase of a new engine for Engine Company No. 2, the old engine became a relief or spare piece of apparatus, but not, however, before it had received a new boiler, and was otherwise improved. Upon the organization of Company No. 5 it was again put in active service on Nov. 30, 1874.

The hose-carriage controlled by this company is of the old two-wheel pattern, and should be dispensed with altogether for active service. The carriage is so constructed as to impose a large share of the load upon the back of the horse, who cannot, when responding to an alarm, keep up with the engine. This style of carriage is unsuitable, and I would recommend the purchase of a four-wheel carriage.

Franklin Hook and Ladder Co., No. 1.

House in City Building, cor. Western Avenue and Green Street.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
George W. Lamson	Driver,	34	59	Driver	$85 00
James P. Ewell	Foreman,	39	62	Pianoforte-keyMaker,	18 33
Charles Emerson	Assistant,	30	69	Confectioner	17 50
Charles S. Abbott	Ladder-man	35	65	Ivory Layer	16 67
Charles H. Wiggin, Jr.	"	27	70	Furniture Polisher	16 67
Hamilton Porter	"	32	63	Blacksmith	16 67
Elisha W. Morey	"	28	61	Furniture Polisher	16 67
Albert S. Benson	"	31	72	Box Maker	16 67
Charles H. Waite	"	29	73	Clerk	16 67
George R. Oliver	"	24	57	Polisher	16 67
John T. Mahaffey	"	30	67	Carpenter	16 67
William Parks	"	31	77	Iron Moulder	16 67
Daniel E. Owen	"	31	60	Carpenter	16 67
William H. Lydston	"	28	68	Carpenter	16 67
Clarence A. Moore	"	25	58	Confectioner	16 67
Charles A. Sharon	"	26	64	Machinist	16 67
John H. Jacobs	"	25	76	Provision Dealer	16 67
Joseph B. Farmer	"	37	74	Steam & Gas Fitter,	16 67
Warren H. Dow	"	25	71	Box Maker	16 67
James A. Bushee	"	30	75	Furniture Polisher	16 67
Charles E. Warren	"	31	66	Expressman	16 67

Mayor Bradford Hook and Ladder Co., No. 2.

House on Cambridge Street, corner of Portland.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Jeremiah R. Hobbs	Driver,	28	81	Driver	$85 00
James Dalton	Foreman,	38	79	Butcher	18 33
James J. Fleming	Assistant,	35	80	Iron Moulder	17 50
Walter R. Marsh	Ladder-man	38	83	Oil Clothes Maker	16 67
Jacob F. Bradeen	"	42	84	Mason	16 67
John S. Dooris	"	29	85	Blacksmith	16 67
James McChristal	"	25	88	Teamster	16 67
Richard T. Marvin	"	40	89	Carpenter	16 67
Philip C. Munroe	"	34	91	Saloon Keeper	16 67
Thomas L. Hunter	"	35	93	Iron Moulder	16 67
James M. Keaney	"	24	94	Pork Packer	16 67
Michael Cairns	"	38	95	Carpenter	16 67
John Lennon	"	27	96	Glass Blower	16 67
Timothy Mahoney	"	27	97	Cabinet Maker	16 67
William J. Stinson	"	27	98	Core Maker	16 67
Alfred F. Chadwick	"	40	99	Carpenter	16 67
Orville W. Van Duzee,	"	29	82	Iron Moulder	16 67
John McCarthy	"	25	90	Iron Moulder	16 67
Joseph Gormley	"	26	92	Glass Blower	16 67
Peter McNally	"	36	86	Mason	16 67
Timothy J. McHugh	"	26	87	Brass Finisher	16 67

Both Hook-and-Ladder Trucks are drawn to fires by horses, and each truck is furnished with proper appurtenances.

Supply Hose Carriage, No. 1.

House in City Building, cor. Green Street and Western Avenue.

Name.	Rank.	Age.	No. of Badge.	Occupation.	Monthly Pay.
Lewis C. Clark . . .	Driver,	30	78	Driver	$85 00

This carriage has no company attached to it, the apparatus being, as its name implies, a supply carriage for the furnishing of extra hose to the steamers at fires, should it be required.

The carriage is of the two-wheel pattern; and it carries a reel of 650 feet of hose, besides being fully equipped with hydrant connections, pipes, spanners, wrenches, etc.

I would recommend that a four-wheel carriage be substituted for the present clumsy and unwieldy vehicle.

Relief Engineer.

Name.	Rank.	Age.	Occupation.	Monthly Pay.
John D. Thompson .	Relief Engineer,	34	Relief Engineer,	$100 00

Cambridge Fire Alarm Telegraph.

Battery Station, Church Street.

Name.	Rank.	Age.	Occupation.	Monthly Pay.
George J. Blaisdell .	Telegraph Operator,	31	Telegraph Operator,	$85 00
David J. Campbell .	Assistant Operator,	28	Assistant Operator,	75 00

RECORD OF FIRES AND ALARMS FROM DECEMBER 1, 1874, TO NOVEMBER 30, 1875.

Day of Week.	Date.	Hour.	Box.	Owners of Property.	Occupants of Property.	Location of Fires.	Loss.	Insurance.	Apparatus Present.	General Remarks.
	1874.									
Wednesday	Dec. 2.	4.50 P.M.	72	S. G. Reed	Several Parties . .	Cedar St. . .	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1, and Hose 4, of Somerville.	Alarm caused by smoke being seen issuing from a chimney.
Monday . .	" 14.	8.00 P.M.	Bell	Unknown	Unknown	Somerville .	. . . .	. . . .	Engine 4.	Alarm given in Ward 5 for a fire in Somerville, at which Engine 4 rendered assistance.
Tuesday .	" 15.	.20 A.M.	9	"	"	Charlestown,	. . . .	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in Charlestown, to which Engines 2 and 5 were sent in response to a call for assistance.
Tuesday .	" 15.	7.05 A.M.	82	"	"	Belmont . . .	. . . .	. . . .	Engines 1 & 4, H. & L. 1, & Supply Hose 1.	Fire in Belmont, which was extinguished before the alarm was given in Cambridge.
Monday . .	" 21.	5.00 P.M.	17	Talbot Thompson .	Several Families .	Wash'ton St.	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Burning of old rags in cook-stove filled the house with smoke.
Wednesday	" 23.	4.12 A.M.	6	Boston Stamping Co.	Boston Stamping Co.	Third St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Burning of wood-work under smelting kettle.
	1875.									
Saturday .	Jan. 2.	2.30 A.M.	Bell	Unknown	Unknown	Somerville .	. . . .	. . . .	Engine 4.	Fire in Somerville, bell alarm in Ward 5 only.
Thursday .	" 21.	7.00 A.M.	Bell	"	"	" .	. . . .	. . . .	Engine 4.	Fire in Somerville, bell alarm in Ward 5 only.
Tuesday .	" 26.	6.40 P.M.	25	. . . . .	. . . . .	. . . . .	. . . .	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Alarm caused by malicious interference with fire alarm signal box.
Sunday . .	" 31.	9.05 A.M.	25	Amos Munroe . .	Benjamin Litchfield,	Auburn St. .	$625	$575	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Fire in dwelling, caused by a defective chimney.
Thursday .	Feb. 4.	12.30 A.M.	Bell	Unknown	Unknown	Somerville .	. . . .	. . . .	Engine 4.	Fire in Somerville, bell alarm in Ward 5 only.
Saturday .	" 6.	8.06 P.M.	43	N. N. Stickney . .	Several Families .	Elmer St. . .	5,000	4,200	Engines 1, 2, 4 & 5, H. & L. 1, and Supply Hose 1.	Fire in double dwelling, the building being set on fire in attempt to thaw frozen water pipes.
Saturday .	" 6.	8.20 P.M.	43	" . .	" .	" . .				
Monday . .	" 8.	8.43 P.M.	16	D. G. Pratt	D. G. Pratt	Broadway .	800	800	Engines 1, 2, 3, 4 & 5, H. & L. 1 & 2, and Supply Hose 1.	Overheated pipes in drying kiln set shelving on fire.
Monday . .	" 8.	8.48 P.M.	16	Hancock & Greely,	Hancock & Greely,	" .				
Monday . .	" 8.	8.53 P.M.	16	"	"	" .				

Friday . .	Feb. 12.	12.08 A.M.	28	O. S. Bullock . . .	O. S. Bullock . . .	Broadway .	1,500	1,500	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Fire in picture-frame factory; cause of fire unknown.
Friday . .	" 12.	3.40 A.M	28	" . . .	J. C. Lynch	" .			Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Rekindling of former fire; alarm needlessly given.
Sunday . .	" 14.	7.02 P.M.	59	P. B. Cloyes . . .	P. B. Cloyes	Murray St. .	420	420	Engines 1, 2, 4 & 5, H. & L. 1, and Supply Hose 1.	Fire probably set in barn by boys.
Tuesday .	" 16.	1.29 P.M.	8	Lewis Hall	Unoccupied . . .	Second St. .	400	400	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire caused from overheated furnace.
Tuesday .	" 16.	8.05 P.M	16	William E. Bird .	William E. Bird .	Sixth St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Fire in foundry building, caused by emptying hot slag against woodwork.
Thursday .	" 18.	7.15 P.M.	35	. . . . .	. . . . .	. . . . .	. . . .	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Malicious meddling with fire alarm signal box.
Friday . .	" 19.	6.25 A.M.	9	Mrs. Otis H. Hendley	Otis S. Brown & Co.	Bridge St. . .	375	375	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Gas explosion in cellar of grocery and grain store.
Sunday . .	" 21.	1.30 A.M.	48	John F. Fitzpatrick,	John F. Fitzpatrick,	Inman St. . .	1,422	1,422	Engines 1, 2 & 5, H. & L. 1 & 2, and Supply Hose 1.	Cause of fire, defective chimney in dwelling-house.
Friday . .	Mar. 5.	7.16 P.M.	25	. . . . .	. . . . .	. . . . .	. . . .	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Interference with fire alarm box.
Wednesday	" 10.	8.42 P.M.	46	. . . . .	. . . . .	. . . . .	. . . .	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Interference with fire alarm box.
Wednesday	" 31.	8.35 P.M.	14	John Green	Several Families .	Gore St. . .	295	295	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in tenement, caused by a defective chimney.
Thursday .	Apr. 1.	11.57 A.M.	15	David Leibert . . .	David Leibert . .	Vine St. . . .	290	290	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in dwelling, supposed to have been caused by mice and matches.
Tuesday .	" 6.	6.13 A.M.	14	Michael Croak . .	Michael Croak . .	Charles St. .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Burning of shavings in dwelling-house.
Wednesday	" 7.	2.18 A.M.	12	Charles Linnehan .	Several Families .	Third St. . .	275	275	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in tenement house, caused by defect in chimney.
Saturday .	" 10.	1.22 A.M.	2	Warren Heirs . . .	Cummings, Kenney & Co.	Bridge St. . .	40	40	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in counting-room, caused by mice and matches.
					Amounts carried forward . . .		$11,442	$10,592		

RECORD OF FIRES AND ALARMS FROM DECEMBER 1, 1874, TO NOVEMBER 30, 1875. — *Continued.*

Day of Week.	Date.	Hour.	Box.	Owners of Property.	Occupants of Property.	Location of Fires.	Loss.	Insurance.	Apparatus Present.	General Remarks.
	1875.				*Amounts*	*br'ght forward*	$11,442	$10,592		
Tuesday .	Apr. 13.	8.12 P.M.	72	Sarah Rooney . . .	Several Families .	Montgomery Street.	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1, Hose 4, of Somerville.	Burning out of chimney.
Wednesday	" 21.	10.18 P.M.	6	Jacob Baldwin, Jr.	Turner & Shaw . .	Broadway .	100	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Partial burning of stable, cause of fire unknown.
Thursday .	" 22.	9.17 A.M.	9	Woodbury & Co. .	Woodbury & Co. .	Thorndike St.	. . . .	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Alarm given on account of steam whistle on planing mill being blown out of usual time, but supposed to have been for fire.
Thursday .	" 22.	9.45 A.M.	6	Unknown	Unknown	Broad Canal .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, Supply Hose 1.	Burning of kettle of pitch on deck of vessel lying in Broad Canal.
Friday . .	" 23.	5.40 P.M.	31	—— Oliver	Several Parties . .	McCabe St. .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Slight burning of wood-shed connected with tenement house.
Friday . .	" 30.	10.02 P.M.	59	James Kernan . .	" " . .	Charles River Street.	Trifling	. . . .	Engines 1, 2, 4 & 5, H. & L. 1, and Supply Hose 1.	Alarm unnecessarily given.
Monday . .	May 3.	3.32 P.M.	68	James M. Hilton .	James M. Hilton .	Forest St. . .	50	50	Engines 1, 4 & 5, H. & L. 1.	Fire caused by hearthstone being laid upon wood without protection of masonry.
Wednesday	" 12.	7.38 A.M.	65	James Lee, Jr. . .	James Lee, Jr. . .	Sacramento St.	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1.	Slight fire in pumping-house Somerville Bleachery Company.
Wednesday	" 12.	1.31 P.M.	9	Chaffee & Cummings,	Chaffee & Cummings,	Bridge St. . .	570	570	Engines 2 & 3, H. & L. 2, and Supply Hose 1.	Ignition of charcoal in shed.
Thursday .	" 13.	8.51 P.M.	9	Unknown	Unknown	" . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L 2, and Supply Hose 1.	Alarm thoughtlessly given by a boy who imagined there was a fire.
Saturday .	" 22.	10.00 P.M.	Bell	Union Railway Co.	Union Railway Co.	Dunster St. .	Trifling	. . . .	Engine 1.	Slight fire in shed; fire extinguished by Engine 1.
Sunday . .	" 23.	11.12 P.M.	6	Boston Stamping Co.	Boston Stamping Co.	Potter St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, Supply Hose 1.	Burning of marsh grass, set on fire by boys.
Saturday .	" 29.	10.42 A.M.	71	Unknown	Unknown	Somerville .	. . . .	. . . .	Engines 1, 4 & 5, H. & L. 1.	Fire in Somerville near Cambridge line.

Thursday .	June 3.	2.53 P.M.	54	J. G. Palfrey . . .	J. G. Palfrey . . .	Oxford St. .	. . . .	. . . .	Engines 1, 4 & 5, H. & L. 1, and Supply Hose 1.	Alarm caused by burning brush.
Tuesday .	" 8.	9.00 P.M.	Bell	Unknown	Unknown	Somerville .	. . . .	. . . .	Engine 4.	Alarm in Ward 5 only for a fire in Somerville.
Friday . .	" 11.	1.58 A.M.	69	A. H. Hews & Co.	A. H. Hews & Co..	Raymond St.	22,520	11,840	Engines 1, 2, 4 & 5, H. & L. 1, Supply Hose 1, and Hose 4, of Somerville.	Fire originated in packing department connected with the large pottery of Hews & Co., and spreading with great fury. The warehouse was destroyed.
Friday . .	" 11.	2.10 A.M.	69	"	" " " .	"				
Friday . .	" 18.	9.05 P.M.	73	—— Sweeney . . .	—— Sweeney . . .	Spruce St. . .	50	50	Engines 1, 4 & 5, H. & L. 1, and Hose 4, of Somerville.	Burning of a small shed; cause of fire unknown.
Tuesday .	" 22.	12.58 A.M.	31	Henry A. Bacon . .	M. Brady	Porter St. . .	700	700	Engines 2, 3 & 5, H. & L. 2, Supply Hose 1, Engine 1, Hose 3, & H. & L. 1, of Somerville.	Fire in tenement, which was doubtless the act of an incendiary.
Thursday .	" 24.	1.31 A.M.	17	James Richardson .	Richardson & Hampton	Hastings St. .	4,500	500	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Fire in tobacco manufactory, having its origin from a chimney, as is supposed.
Friday . .	" 25.	1.01 P.M.	14	Unknown	Several Families .	Jefferson St.	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Slight fire in tenement, caused by a defect in chimney.
Saturday .	" 26.	12.54 P.M.	31	"	" " .	"	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Burning of rags placed in a box of unslaked lime.
Tuesday .	" 29.	8.29 P.M.	23	Thomas O'Hara . .	Thomas O'Hara . .	Sidney St. . .	Trifling	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Burning of barrel of shavings.
Saturday .	July 3.	8.20 A.M.	31	Unknown	Several Parties . .	Jefferson St.	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Burning out of sooty chimney in tenement house.
Monday . .	" 5.	12.44 P.M.	26	Allen & Endicott .	Walworth Mf'g Co.	Main St. . .	1,688	1,338	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Fire caused by ignition of oily waste thrown in boiler-room to be burned in furnace.
Monday . .	" 5.	11.27 P.M.	69	Andrew N. Wyeth	Andrew N. Wyeth,	Raymond St.	250	. . . .	Engines 1, 4 & 5, H. & L. 1, and Hose 4, of Somerville.	Small barn struck by lightning during a violent storm.
Saturday .	" 10.	7.46 P.M.	6	Day & Collins . . .	Day & Collins . . .	Main St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	An overheated stove-pipe set woodwork on fire in drain pipe factory.
Wednesday	" 14.	3.55 A.M.	73	James Bowman . .	Several Parties . .	Jackson St. .	600	600	Engines 1, 4 & 5, H. & L. 1, and Hose 4, of Somerville.	Fire in dwelling, doubtless caused by a defective chimney.
					Amounts carried forward . . .		$42,470	$26,240		

RECORD OF FIRES AND ALARMS FROM DECEMBER 1, 1874, TO NOVEMBER 30, 1875. — *Continued.*

Day of Week.	Date	Hour.	Box.	Owners of Property.	Occupants of Property.	Location of Fires.	Loss.	Insurance.	Apparatus Present.	General Remarks.
	1875.				*Amounts br'ght forward*		$42,470	$26,240		
Thursday .	July 15.	11.47 A.M.	92	Doe & Hunnewell,	Doe & Hunnewell .	Gore St. . .	2,465	2,465	Engines 1. 2, 3, 4 & 5, H. and L. 2, Supply Hose, and a portion of the Somerville Dept.	Fire caused by sparks from chimney of planing mill.
Thursday .	" 15.	11.52 A.M.	92	"	" " .	" . .				
Thursday .	" 15.	11.57 A.M.	92	"	" " .	" . .				
Thursday .	" 15.	3.35 P.M.	16	D. B. Ajostino . .	D. B. Ajostino . .	Sixth St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose.	Burning of straw on manure heap near stable.
Saturday .	" 17.	9.52 P.M.	32	Richard Ferry . .	Several Families .	Norfolk St. .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Burning of kindling wood in cellar of dwelling-house.
Saturday .	" 24.	2.18 A.M.	46	Joseph Searlett . .	" " .	Haneock St. .	1,350	1,200	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Fire in dwelling, caused by explosion of kerosene lamp. The inmates of the upper stories were compelled to make their escape by jumping from the windows.
Thursday .	" 29.	11.00 A.M.	Bell	Unknown	Unknown	Arlington . .	. . . .	. . . .	Engine 4.	Fire in Arlington, to which Engine 4 responded.
Saturday .	Aug. 21.	9.04 A.M.	6	E. H. Luke	Hayward & Kimball	Main St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose.	Burning of shavings in boiler-room of furniture factory.
Wednesday	" 25.	8.26 P.M.	9	Woodbury & Co. . .	Woodbury & Co. .	Thorndike St.	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Burning of shavings in boiler-room of planing mill.
Thursday .	" 26.	8.46 P.M.	2	Unknown	Unknown	Charlestown,	. . . .	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Fire in Charlestown, and Engines 3 and 5, and Hook and Ladder 2, were sent to render aid.
Monday . .	Sept. 6.	9.27 A.M.	72	C. H. Tyler	J. A. Engdahl . . .	Belmont St. .	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1, and Hose 4, of Somerville.	Slight fire in picture-frame factory, caused by ignition of benzine.
Friday . .	" 17.	1.19 A.M.	59	William Elliott . .	William Elliott . .	Murray St. .	1,775	1,775	Engines 1, 2, 4 & 5, H. & L.1, and Supply Hose 1.	Fire in wheelwright and blacksmith shop, probably caused by sparks from forge.
Thursday .	" 23.	12.20 A.M.	41	John Mahady . . .	John Mahady . . .	Pleasant St. .	550	450	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Fire in dwelling, caused by kerosene lamp taking fire.

Sunday . .	Sept. 26.	6.28 P.M.	16	Union Railway Co.	Union Railway Co.	Dock St. . .	175	175	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Kerosene lamp fell from its hanging, and exploding, set the building on fire, by which a horse in ear-stable was so badly burned as to require his killing.
Monday . .	" 27.	9.43 A.M.	64	Mrs. John Read . .	Mrs. John Read . .	Garden St. .	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1, and Supply Hose 1.	Fire caused by overheated kitchen chimney.
Monday . .	" 27.	11.52 A.M.	45	James Dobbs . . .	James Dobbs . . .	Franklin St. .	145.	85	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Defective flue hole in chimney of dwelling cause of fire.
Wednesday	" 29.	1.48 P.M.	41	John Ford	John Ford	Rockwell St.	145	85	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Burning of a lounge in sleeping-room.
Saturday .	Oct. 2.	1.15 A.M.	53	Michael Sullivan .	Unoccupied	Cowperthwaite Street.	150	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Unoccupied dwelling, probably set on fire.
Sunday . .	" 3.	6.00 P.M.	Bell	L. Hatfield	L. Hatfield	Oxford St. .	48	35	Engine 4.	Fire caused by placing hearthstone on wood-work. Alarm in Ward 5 only.
Wednesday	" 6.	4.48 P.M.	74	Mrs. Dempsey . .	Mrs. Dempsey . .	Dublin St. . .	75	75	Engines 1, 4 & 5, H. & L. 1.	Slight fire in attic of dwelling-house, caused by a defective chimney.
Sunday . .	" 10.	10.30 A.M.	Bell	Mrs. Dalton	Clarence H. Billings	Harvard St. .	Trifling	. . . .	Engine 1.	Fire in cellar connected with tailor store. Alarm in Ward 1 only.
Tuesday .	" 12.	5.05 P.M.	32	Michael Corkery .	Several Families .	Webster Av.	216	216	Engines 2, 3 & 5, H. & L. 2, Supply Hose 1, and Hose 3, and H. & L. 1, of Somerville.	Fire originated in dwelling-house from unknown cause.
Friday . .	" 15.	12.10 P.M.	9	N. E. Glass Co. . .	" " .	North St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Alarm caused by burning chimney in tenement, Glass House Block.
Friday . .	" 15.	8.23 P.M.	91	C. H. Tyler	J. A. Engdahl and others	Belmont St. .	11,925	8,925	Engines 1, 2, 4 & 5, H. & L. 1, Supply Hose 1, Hose 4 and Engine 1, of Somerville, and Hose 1 and 2, of Arlington.	Fire originated in picture-frame factory, probably from spontaneous combustion, and from thence communicated itself to adjoining buildings. The alarm being rung in from two boxes at the same time, caused confusion and delay in the response of the fire department.
Friday . .	" 15.	8.30 P.M.	91	Albert Brown and others	J. A. Engdahl and others	" .				
Monday . .	" 18.	12.58 P.M.	71	F. Fischer	F. Fischer	North Av. . .	Trifling	. . . .	Engines 1, 4 & 5, and H. & L. 1.	Fire on roof of tannery building, caused by sparks from chimney.
					Amounts carried forward . . .		$61,489	$41,726		

RECORD OF FIRES AND ALARMS FROM DECEMBER 1, 1874, TO NOVEMBER 30, 1875. — *Continued.*

Day of Week.	Date.	Hour.	Box.	Owners of Property.	Occupants of Property.	Location of Fires.	Loss.	Insurance.	Apparatus Present.	General Remarks.
	1875.				*Amounts*	*br'ght forward*	$61,489	$41,726		
Friday . .	Oct. 22.	9.57 A.M.	48	Dennis Murphy . .	Dennis Murphy . .	Amory St. .	Trifling	. . . .	Engines 1, 2 & 5, H. & L. 1 & 2, and Supply Hose 1.	Hay in stable loft took fire from some unknown cause.
Friday . .	" 22.	2.57 P.M.	32	Conlan Heirs . . .	William Reardon .	Winsor St. .	2,150	1,350	Engines 2, 3 & 5, H. & L. 2, Supply Hose 1, Engine 1, H. & L. 1, and Hose 3, of Somerville.	Fire caused by ignition of gas in tallow-rendering establishment.
Friday . .	" 22.	4.24 P.M.	65	James Lee, Jr. . .	James Lee, Jr. . .	Sacramento St.	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1.	Sparks from chimney set roof of pumping-house on fire.
Saturday .	" 23.	1.33 A.M.	74	Fitchburg R. R. Co.	Fitchburg R. R. Co.	Dublin St. .	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1.	Depot building set on fire by sparks from locomotive.
Sunday . .	" 24.	2.33 A.M.	6	Cambridge G. L. Co.	James H. Healey .	Third St. . .	5,050	3,250	Engines 2, 3 & 5, H. & L. 1 & 2, and Supply Hose 1.	Fire in wheelwright and paint shop, which was probably caused by malicious design.
Saturday .	" 30.	4.43 P.M.	57	James Nolan . . .	James Nolan . . .	Sacramento St	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1.	Shavings in cellar accidentally set on fire.
Friday . .	Nov. 5.	10.30 P.M.	78	Dodge & Merriam .	Unoccupied	Tuttle St. . .	Trifling	. . . .	Engines 1, 4 & 5, H. & L. 1.	Small and worthless shed set on fire and destroyed.
Monday . .	" 8.	8.50 P.M.	47	Dennis Murphy . .	Dennis Murphy . .	Amory St. .	100	. . . .	Engines 1, 2 & 5, H. & L. 1 & 2, and Supply Hose 1.	A small stable took fire from some unexplained cause.
Sunday . .	" 14.	6.23 A.M.	48	—— McLaughlin .	—— McLaughlin .	Hampshire St.	Trifling	. . . .	Engines 1, 2 & 5, H. & L. 1 & 2, and Supply Hose 1.	Dry leaves outside of building took fire, probably from a spark from a chimney or tobacco pipe.
Sunday . .	" 14.	3.52 P.M.	15	D. B. Ajostino . .	Unoccupied	Sixth St. . .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Some hay set on fire in stable.
Tuesday .	" 23.	8.26 A.M.	13	Adam Winlo . . .	Adam Winlo . . .	Winter St. .	Trifling	. . . .	Engines 2, 3 & 5, H. & L. 2, and Supply Hose 1.	Alarm needlessly given.
Friday . .	" 26.	9.10 P.M.	46	John Hackett . . .	Several Families .	Hancock St. .	Trifling	. . . .	Engines 1, 2 & 5, H. & L. 1, and Supply Hose 1.	Alarm needlessly given.
							$68,789	$46,326		

CAMBRIDGE FIRE ALARM TELEGRAPH.

Location of Signal Boxes and Bell Strikers.

No.	
2.	Bridge Street, cor. of Prison Point.
6.	Third Street, cor. of Broadway.
8.	Third Street, cor. of Thorndike.
9.	Cambridge Street, Beal & Hooper's building.
12.	Winter Street, cor. of Third.
13.	Fourth Street, No. 3 Engine House.
14.	Sixth Street, cor. of Cambridge.
15.	Vine Street, cor. of Fifth.
16.	Broadway, Hancock & Greely's building.
17.	Washington Street, corner of Brewery.
21.	Sidney Street, cor. of Allston.
23.	Pearl Street, cor. of Auburn.
24.	Brookline Street, cor. of Valentine.
25.	Main and Front Streets (junct.).
26.	Main Street, cor. of Osborn.
27.	Clark Street, cor. of Harvard.
28.	Broadway, opposite Page's Box Factory.
31.	Cambridge Street, cor. Harding.
32.	Cambridge Street, corner of Columbia.
34.	Columbia Street, cor. of Hampshire.
35.	Harvard Street, cor. of Norfolk.
36.	Main Street, cor. of Western Avenue.
37.	Pleasant Street, cor. of River (junction).
38.	Magazine Street, cor. of Lake.
39.	Magazine Street, cor. of Chestnut.
41.	Pleasant Street, cor. of Fairmont.
42.	Blackstone Street, opp. Riverside Press.
43.	Banks Street, cor. of Flagg.
45.	Franklin Street, near Soden.
46.	Main Street, cor. of Hancock.
47.	Broadway, cor. of Antrim.
48.	Cambridge Street, cor. Hampshire (junction).
51.	Broadway, cor. of Ellery.
52.	Mt. Auburn and Main Streets (junction).
53.	Mt. Auburn Street, corner of Linden
54.	Cambridge Street, corner of Sumner.
57.	Oxford Street, cor. of Mellen.
59.	Harvard Square, Ramsay's Apothecary.
62.	Mt. Auburn Street, corner of Hilliard.
63.	Brattle Street, corner of Mason (junction).
64.	Garden Street, cor. of Chauncy.
65.	North Avenue, cor. of Shepard.

No.
68. North Avenue, near Railroad Bridge.
69. North Avenue, No. 4 Engine House.
71. North Avenue, near Tannery.
72. Cedar Street, Hotel Building.
73. Spruce Street, near Bay State Brick Yard.
74. Dublin Street, cor. of Railroad.

No.
78. Concord Avenue, cor. of Sparks.
79. Brattle Street, cor. of Sparks.
82. Brattle Street, cor. of Elmwood Avenue.
91. North Avenue, Union Railway car house.
92. Gore Street, J. P. Squires' building.

Location of Bell Strikers.

Unitarian Church, Harvard Square, Ward One.
Methodist Church, Harvard Street, Ward Two.
Putnam Schoolhouse, Fourth Street, Ward Three.
Webster Schoolhouse, Upton Street, Ward Four.
Baptist Church, North Avenue, Ward Five.

Instruction to Key Holders.

Alarms are to be given from the box nearest the location of the fire.

To give an alarm, open the door, pull the hook to the bottom of the slot once, and let go.

Each box contains a small bell, which, if heard before you pull, indicates that the alarm has been previously given. Any person listening at a box will learn the number of the box from which the alarm was given. For instance: If an alarm proceeds from box 36, the bells and gongs attached will strike three, then after a short pause six consecutive blows, thus, III — IIIIII.

Don't give an alarm for a fire seen at a distance unless assistance is called for.

Citizens are earnestly requested to inform themselves where keys to the signal boxes are kept, — signs suitably inscribed being placed over each box, giving the requisite information.

Instruction to Firemen, etc.

Companies not required to respond to first or second alarms, will be notified of the extinguishment of a fire by two strokes on the gongs that their services WILL NOT be needed, and that orders have been given to "make up." Should an alarm be given from any box while a portion of the department is engaged at a fire, the engine or ladder company located nearest to such box will immediately answer such alarm. Engine companies answering third alarms will also respond in the same manner as is described in the preceding sentence.

Police officers and citizens who may give an alarm of fire, are requested to remain at the signal box until the arrival of an engine or ladder company, and then direct them to the locality of the fire.

OPERATIONS OF THE DEPARTMENT.

The several companies connected with the Fire Department will respond on the occasion of alarms of fire in the following order: —

Cambridge Engine Company, No. 1.

First Alarm. Boxes Nos. 21, 23, 24, 25, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 51, 52, 53, 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Second Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 26, 27, 28, 31, 32, 34, 35, 92.

Union Engine Company, No. 2.

First Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 21, 23, 24, 25, 26, 27, 28, 31, 32, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 51, 52, 53, 59, 92.

Second Alarm. Boxes Nos. 54, 57, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Niagara Engine Company, No. 3.

First Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 26, 27, 28, 31, 32, 34, 35, 92.

Second Alarm. Boxes Nos. 25, 36, 37, 45, 47, 48.

Third Alarm. Boxes Nos. 21, 23, 24, 38, 39, 41, 42, 43, 46, 51, 52, 53, 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Daniel Webster Engine Company, No. 4.

First Alarm. Boxes Nos. 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Second Alarm. Boxes Nos. 43, 46, 47, 48, 51, 52, 53.

Third Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 21, 23, 24, 25, 26, 27, 28, 31, 32, 34, 35, 36, 37, 38, 39, 41, 42, 45, 92.

P. H. Raymond Engine Company, No. 5.

First Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 21, 23, 24, 25, 26, 27, 28, 31, 32, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 51, 52, 53, 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91, 92.

Franklin Hook and Ladder Company, No. 1.

First Alarm. Boxes Nos. 6, 16, 17, 21, 23, 24, 25, 26, 27, 28, 35, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 51, 52, 53, 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Second Alarm. Boxes Nos. 2, 8, 9, 12, 13, 14, 15, 31, 32, 34, 92.

Mayor Bradford Hook and Ladder Company, No. 2.

First Alarm. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 26, 27, 28, 31, 32, 34, 35, 36, 47, 48, 92.

SECOND ALARM. Boxes Nos. 21, 23, 24, 25, 37, 38, 39, 41, 42, 43, 45, 46, 51, 52, 53, 54, 57, 59, 62, 63, 64, 65, 68, 69, 71, 72, 73, 74, 78, 79, 82, 91.

Supply Hose Carriage, No. 1.

FIRST ALARM. Boxes Nos. 2, 6, 8, 9, 12, 13, 14, 15, 16, 17, 21, 23, 24, 25, 26, 27, 28, 31, 32, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 51, 52, 53, 54, 59, 62, 63, 64, 79, 82, 92.

SECOND ALARM. Boxes Nos. 57, 65, 68, 69, 71, 72, 73, 74, 78, 91.

THE THIRD ALARM will be given by striking THREE STROKES on the GONGS and BELLS.

THE SECOND ALARM call for Hook and Ladder Company No. 1, will be given by striking FOUR STROKES on the GONGS and BELLS.

THE SECOND ALARM call for Hook and Ladder Company No. 2, will be given by striking FIVE STROKES on the GONGS and BELLS.

HOURS AT WHICH ALARMS WERE GIVEN.

The following table shows the hour at which alarms were given, the fractions of time being omitted: —

1874-75.	A. M.												Total A. M.	P. M.											Total P. M.	Totals.
	1	2	3	4	5	6	7	8	9	10	11	12		1	2	3	4	5	6	7	8	9	10	11	12		
December	.	.	.	1	.	1	1	.	.	.	.	.	3	.	.	.	1	1	.	.	1	.	.	.	.	3	6
January	.	1	.	.	.	.	1	.	1	.	.	.	3	.	.	.	.	.	1	.	.	.	.	.	.	1	4
February	1	.	1	.	.	1	.	.	.	.	.	2	5	1	.	.	.	.	.	2	6	.	.	.	.	9	14
March	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	1	2	.	.	.	.	3	3
April	1	1	.	.	.	1	.	.	2	.	1	.	6	.	.	.	.	1	.	.	1	.	2	.	.	4	10
May	.	.	.	.	.	.	1	.	.	1	.	.	2	1	.	1	.	.	.	.	1	.	1	1	.	5	7
June	2	1	.	.	.	.	.	.	.	.	.	1	4	1	1	.	.	.	.	.	1	2	.	.	1	6	10
July	.	1	1	.	.	.	.	1	.	.	4	.	7	.	.	1	.	.	.	1	.	1	.	1	1	5	12
August	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	2	.	.	.	.	2	3
September	1	.	.	.	.	.	.	.	2	.	1	1	5	1	.	.	.	.	1	.	.	.	.	.	.	2	7
October	2	1	.	.	.	.	.	.	1	1	.	.	5	.	1	.	3	1	1	.	2	.	.	.	2	10	15
November	.	.	.	.	.	1	.	1	.	.	.	.	2	.	.	1	.	.	.	.	1	1	1	.	.	4	6
Totals	7	5	2	1	.	4	3	2	7	2	6	4	43	4	2	3	4	3	3	4	17	4	4	2	4	54	97

DAILY AND MONTHLY CLASSIFICATION OF ALARMS.

The annexed table shows the day of the week on which alarms have occurred, and the number in each month, commencing Dec. 1, 1874, and ending Nov. 30, 1875 : —

1874-75.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Totals
Sunday . .	. .	1	2	. .	. .	1	. .	. .	. .	1	3	2	10
Monday . .	2	. .	3	. .	. .	1	. .	2	. .	3	1	1	13
Tuesday . .	2	1	2	. .	2	. .	3	. .	. .	. .	1	1	12
Wednesday,	2	. .	. .	2	2	2	. .	1	1	1	1	. .	12
Thursday .	. .	1	2	. .	3	1	2	5	1	1	. .	. .	16
Friday . .	. .	. .	3	1	2	. .	4	. .	. .	1	6	2	19
Saturday .	. .	1	2	. .	1	2	1	4	1	. .	3	. .	15
Totals . . .	6	4	14	3	10	7	10	12	3	7	15	6	97

WARDS IN WHICH ALARMS OCCURRED.

The following table will show the location of fire alarms by wards, from Dec. 1, 1874, to Nov. 30, 1875 : —

Ward.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Totals
1	1	. .	3	. .	1	2	1	. .	. .	2	4	1	15
2	2	. .	8	1	3	1	3	4	1	1	4	2	30
3	1	. .	2	2	5	2	1	3	2	. .	1	2	21
4	. .	2	. .	. .	. .	. .	1	2	. .	3	. .	1	9
5	2	2	1	. .	1	2	4	3	. .	1	6	. .	22
Totals . . .	6	4	14	3	10	7	10	12	3	7	15	6	97

OPERATIONS OF THE TELEGRAPH.

The annexed table shows the number of each fire alarm signal box, and also shows the number of times each box was operated during the year : —

TABLE.

Box.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Totals
2					1				1				2
6	1				2	1		1	1		1		7
8			1										1
9	1		1		1	2			1		1		7
12					1								1
13												1	1
14				1	1		1						3
15					1							1	2
16			4					1		1			6
17	1						1						2
21													
23							1						1
24													
25		2		1									3
26								1					1
27													
28			2										2
31					1		2	1					4
32								1			2		3
34													
35			1										1
36													
37													
38													
39													
41										2			2
42													
43			2										2
45										1			1
46				1				1				1	3
47												1	1
48			1								1	1	3
51													
52													
53											1		1
54							1						1
57											1		1
59			1		1					1			3
62													
63													
64										1			1
65						1					1		2
68						1							1
69							2	1					3
71						1					1		2
72	1				1					1			3
73							1	1					2
74											2		2
78												1	1
79													
82	1												1
91											2		2
92								3					3
Totals.	5	2	13	3	10	6	9	11	3	7	13	6	88

HYDRANTS.

Ward One.

Appleton Street, corner Highland.
Ash Street, corner New.
Baldwin Street, cor. Baldwin Place.
Banks Street, corner Flagg.
Banks Street, cor. Cowperthwaite.
Banks Street, corner Grant.
Bow Street, cor. Linden (post).
Brattle Street, opposite the estates of Messrs. Longfellow and Hastings.
Brattle Street, cor. Ash.
Brattle Street, cor. Hilliard.
Brattle Street, cor. University Press estate.
Brattle Street, cor. Lowell.
Brattle Street, cor. Fresh Pond Lane.
Brattle Street, opposite Mt. Auburn Greenhouse.
Brattle Street, front of Mrs. Wyeth's estate.
Brattle Street, cor. Willard.
Brattle Street, cor. Story.
Brattle Street, cor. Channing.
Brattle Street, cor. Lakeview Avenue.
Brighton Street, corner Winthrop (post).
Brighton Street, cor. Eliot (post).
Broadway, junct. Cambridge Street.
Broadway, cor. Prescott Street.
Broadway, cor. Trowbridge Street.
Broadway, cor. Quincy Street.
Broadway, cor. Ware Street.
Broadway, cor. Ellery Street.
Buckingham Street, opp. Stevens's barn.
Cambridge Street, cor. Trowbridge.
Cambridge Street, front Scientific School.
Cambridge Street, cor. Sumner.
Cambridge Street, cor. Baldwin.
Cambridge Street, cor. Quincy (post).
Cambridge Street, opposite Felton (post).
Chauncy Street, 500 feet from North Avenue.
Church Street, cor. Palmer.
Concord Avenue, junct. Waterhouse Street.
Concord Avenue, corner Sparks Street.
Concord Avenue, opp. Craigie Street.
Concord Avenue, cor. Follen Street (post).
Craigie Street, midway.
Craigie Street, near cor. Sparks.
De Wolf Street, near Cowperthwaite.
Divinity Avenue, opp. Museum.
Dunster Street, cor. South.
Dunster Street, cor. Mt. Auburn.
Eliot Street, opp. Bennett.
Eliot Street, in elbow (post).
Eliot Street, cor. Winthrop (post).
Ellery Street, cor. Main.
Ellery Street, east side, midway between Broadway and Cambridge Street.
Everett Street, south side, midway between North Avenue and Oxford Street.
Fayerweather Street, cor. Brattle.
Fayerweather Street, opp. Reservoir.
Foster Street, cor. Brown.
Garden Street, near Chauncy (post).
Garden Street, cor. Mason.
Garden Street, cor. Wallace.
Grant Street, cor. De Wolf.
Harvard Square, opp. Charles River Bank (post).
Harvard Square, between rails of R. R. track.
Harvard Street, cor. Remington.
Harvard Street, opp. Harvard Block.

Kirkland Street, near Baldwin, south side.
Kirkland Street, corner Trowbridge, south side.
Kirkland Street, corner Irving, south side.
Kirkland Street, cor. Sumner, south side.
Kirkland Street, cor. Quincy, south side.
Kirkland Street, opp. Memorial Hall.
Lakeview Avenue, cor. Brattle Street.
Lakeview Avenue, 500 feet from Brattle Street.
Lakeview Avenue, near Brattle Street (post).
Lakeview Avenue, cor. Huron Street (post).
Lakeview Avenue, on hill (post).
Lakeview Avenue, near Engine House (post).
Langdon Street, in elbow (post).
Linden Street, cor. Harvard (post).
Main Street, junction Harvard.
Main Street, cor. Trowbridge.
Main Street, opposite Bay.
Main Street, near Baptist Church.
Mellen Street, cor. Oxford.
Mill Street, cor. Charles River.
Mt. Auburn Street, corner Brighton (post).
Mt. Auburn Street, cor. Brewer.
Mt. Auburn Street, opp. Athens.
Mt. Auburn and Bow Streets.
Mt. Auburn Street, opp. De Wolf.
Mt. Auburn Street, 200 feet west Cemetery gate, inside enclosure.
Mt. Auburn Street, cor. Willard.
Mt. Auburn Street, cor. Sparks.
Mt. Auburn Street, opp. McDonald's Marble Works.
Mt. Auburn Street, near R.R. stables, in Belmont.
Mt. Auburn Street, n. Lowell (post).
Mt. Auburn Street, corner Dunster (post).
Mt. Auburn St., cor. Holyoke (post).
Mt. Auburn Street, cor. Athens (post).
Mt. Auburn Street, corner Banks (post).
Mt. Auburn Street, corner De Wolf (post).
Mt. Auburn Street, cor. Story (post).
Mt. Auburn Street, corner Hilliard (post).
Mt. Auburn Street, opp. City building (post).
Murray Street, near Charles River.
North Avenue, cor. Chauncy Street.
North Avenue, cor. Shepard Street.
North Avenue, cor. Holmes Place.
North Avenue, cor. Jarvis Street.
North Avenue, front of burial ground (post).
North Avenue, cor. Church Street (post).
North Ave., cor. Garden St. (post).
Oxford Street, near Jarvis.
Oxford Street, cor. Everett.
Phillips Place, cor. Berkeley Street.
Prescott Street, cor. Harvard.
Putnam, cor. Western Avenue.
Putnam Avenue, cor. Flagg Street (post).
Putnam Avenue, opp. Putnam Court (post).
Putnam Avenue, near Hews Street (post).
Putnam Avenue, cor. Sands Street (post).
Quincy Street, midway between Harvard and Broadway (post).
Sands Street, opp. Planing Mill.
South Street, cor. Dunster (post).
Sparks Street, corner Vassal Lane (post).
Sparks Street, cor. Foster.
Sparks Street, oppposite Charles T. Russell's.
Trowbridge Street, midway between Main and Harvard (post).
Waterhouse Street, opposite Follen (post).
Wendell Street, near Carver (post).
Worthington Street, near Engine House Water Works (post).

Ward Two.

Amory Street, cor. Summer.
Antrim Street, near Broadway.
Antrim Street, n. Cambridge (post).
Antrim Street, midway (post).
Austin Street. cor. Essex (post).
Austin Street, cor. Prospect (post).
Austin Street, cor. Temple (post).
Beacon Street, n. Cambridge (post).
Bigelow Street, midway between Main and Harvard.
Brewery Street, n. Hastings (post).
Bristol Street, cor. Portland (post).
Broadway, cor. Highland Avenue.
Broadway, junct. Main Street.
Broadway, cor. Hancock Street.
Broadway, cor. Antrim Street.
Broadway, cor. Tremont Street.
Broadway, cor. Elm Street.
Broadway, cor. Dock Street.
Broadway, cor. Dana Street.
Broadway, cor. Ellsworth Avenue.
Broadway, cor. Fayette Street.
Broadway, cor. Amory Street.
Broadway, cor. Norfolk Street.
Broadway, cor. Boardman Street.
Broadway, junct. Hampshire Street.
Broadway, opp. Thayer's Laboratory.
Broadway, near Broadway House.
Broadway, cor. Clark Street (post).
Broadway, cor. Third Street (post).
Broadway, cor. Davis Street (post).
Broadway, cor. Brewery St. (post).
Broadway, opp. Mason & Hamlin's building (post).
Broadway, near Sixth Street (post).
Broadway, cor. Pioneer Street (post).
Cambridge Street, cor. Harding.
Cambridge Street, cor. Norfolk.
Cambridge Street, cor. Willow.
Cambridge Street, cor. Prospect.
Cambridge Street, cor. Tremont.
Cambridge Street, opp. Fayette.
Cambridge Street, north side, near junct. Hampshire and Cambridge.
Cambridge Street, opp. head Maple Avenue.
Cambridge Street, cor. McCabe.
Cambridge Street, cor. Elm (post).
Cambridge Street, cor. Winsor (post).
Cambridge Street, near Mr. Rafferty's house (post)
Cambridge Street, nearly opp. Highland Avenue (post).
Centre Street, opposite Dana Schoolhouse.
Clinton Street, near G. T. Gale's house (post).
Columbia Street, cor. Washington.
Columbia Street, cor. Lincoln.
Columbia Street, cor. Market.
Columbia Street, cor. Hampshire.
Columbia Street, cor. Harvard.
Dana Street, cor. Chatham (post).
Davis Street, cor. Broadway.
Elm Street, opp. Lincoln (post).
Elm Street, cor. Market.
Essex Street, westerly side, midway between Harvard and Austin.
Fayette Street, 500 feet from Broadway.
Hampshire Street, cor. Amory (post).
Hampshire Street, near Somerville line (post).
Hampshire Street, corner Portland (post).
Harvard Street, cor. Pine.
Harvard Street, cor. Hancock.
Harvard Street, cor. Dana.
Harvard Street, cor. Clark.
Harvard Street, cor. Moore.
Harvard Street, cor. Norfolk.
Harvard Street, cor. Portland.
Harvard Street, cor. Brewery.
Harvard Street, cor. Clinton.
Harvard Street, near R. R. crossing (post).
Harvard Street, between R. R. crossing and Brewery Street (post).
Harvard Street, opp. Davis (post).
Harvard Street, cor. Cherry (post).
Harvard Street, cor. Winsor (post).
Harvard Street, opp. Elm (post).

Harvard Street, cor. Essex (post).
Harvard Street, cor. Prospect (post).
Harvard Street, between Prospect and Inman Streets (post).
Harvard Street, cor. Bigelow (post).
Harvard Street, cor. Lee (post).
Highland Avenue, east side, midway.
Houghton Street, corner Bolton, in Somerville.
Hunting Street, 400 feet from Cambridge.
Inman Street, near Austin.
Inman Street, cor. Harvard.
Inman Street, cor. Broadway.
Inman Street, cor. Summer.
Jefferson Street, cor. Harding.
Jefferson Street, cor. Warren.
Lee Street, midway between Main and Harvard Streets (post).
Main Street, cor. Lee.
Main Street, cor. Hancock.
Main Street, cor. Dock.
Main Street, cor. Essex.
Main Street, opp. Pleasant.
Main Street, cor. Bigelow.
Main Street, junct. Harvard.
Main Street, cor. Pioneer (post).
Main Street, opp. Rawson & Hittinger's.
Main Street, opp. Pearl (post).
Main Street, Gale & Wood's driveway (post).
Maple Avenue, midway bet. Broadway and Cambridge Street.
Market Street, cor. Union.
Moore Street, head Hastings.
Norfolk Street, cor. Hampshire.
Norfolk Street, cor. Worcester.
Norfolk Street, head Washington (post).
Oak Street, west side, near Somerville line.
Plymouth Street, cor. York.
Portland Street, opp. Rolling Mill (post).
Prospect Street, opp. B. Tilton's.
Prospect Street, cor. Broadway.
Prospect Street, cor. Hampshire.
Prospect Street, cor. Main.
Prospect Street, cor. Gardner.
South Street, opp. Willow, Somerville.
South Street, cor. Gore, Somerville.
Tremont Street, near Wellington's house.
Tremont Street, near Cambridge.
Union Street, cor. Hampshire.
Ward Street, cor. Horace, Somerville.
Washington Street, cor. Clark.
Webster Avenue, cor. Elm.
Webster Avenue, cor. Bristol.
Webster Avenue, cor. Winsor.
Webster Avenue, cor. Hampshire.
Webster Avenue, cor. Plymouth.
Webster Avenue, corner Cambridge Street (post).
West Boston Bridge.
West Boston Bridge.
Winsor Street, cor. Lincoln.
Winsor Street, cor. Hampshire.
Winsor Street, cor. Washington.
Winsor Street, near Somerville line (post).
Winsor Street, corner Broadway (post).

Ward Three.

Bridge Street, cor. Prison Point.
Bridge Street, cor. Short.
Bridge Street, cor. Short (post).
Bridge Street, cor. Water.
Bridge Street, opp. Bay State Glasshouse.
Bridge Street, near Bay State Glasshouse (post).
Bridge Street, north side, opp. Braman, Shaw & Co.'s.
Bridge Street, opp. Fourth (post).
Bridge Street, between Short and Water (post).
Bridge Street, near Cambridge (post).
Bridge Street, cor. Water (post).
Bridge Street, cor. East (post).

Cambridge Street, opp. First.
Cambridge Street, cor Carson.
Cambridge Street, cor. Daily's Alley.
Cambridge Street, cor. Third.
Cambridge Street, junct. Bridge.
Cambridge Street, cor. Sixth.
Cambridge Street, near R.R. crossing (post).
Cambridge Street, opposite Seventh (post).
Cambridge Street, opp.No. 141(post).
Cambridge Street, near Third (post).
Cambridge Street, cor. Fourth (post).
Charles Street, cor. Fourth.
East Street, cor. North (post).
Eighth Street, cor. Cambridge.
Fifth Street, cor. Charles.
Fifth Street, cor. Spring.
Fifth Street, cor. Cambridge.
Fifth Street, cor. Gore.
Fourth Street, cor. Winter.
Fourth Street, cor. Cambridge.
Fourth Street, cor. Vine.
Fourth Street, cor. Thorndike.
Gore Street, cor. Fourth.
Gore Street, cor. Carson (post).
Gore Street, cor. Carson.
Gore Street, cor. Seventh (post).
Lowell Railroad Yard.
Munroe Street, cor. Third (post).
North Street, cor. East.
North Street, near Glass Co.'s cutting-shop.
Otis Street, cor. First.
Otis Street, cor. Third.
Otis Street, cor. Seventh.
Otis Street, cor. Ninth.
Prison Point Street, 50 feet north of Ice sheds.
Prison Point Street, on R. R. track, 300 feet from street.
Prison Point Street, on R. R. track, 600 feet from street.
Prison Point Street, 400 feet from Bridge Street.
Prison Point Street, near Bridge (post).
Second Street, cor. Thorndike.
Second Street, cor. Otis.
Second Street, cor. Cambridge.
Sixth Street, cor. Gore.
Sixth Street, cor. Potter.
Sixth Street, cor. Charles (post).
Spring Street, cor. Second.
Spring Street, cor. Third.
Spring Street, cor. Fourth.
Third Street, cor. Vine.
Third Street, near Charles (post).
Third Street, cor. Bridge (post).
Third Street, cor. Potter.
Third Street, opp. Gas Works (post).
Thorndike Street, cor. Sixth.
Thorndike Street, cor. Fifth.
Thorndike Street, near Woodbury's Mill (post).
Thorndike Street, cor. Second (post).
Vine Street, cor. Fifth.
Vine Street, cor Sixth.
Water Street, near Sugar-house.
Yard of J. P. Squire & Co. (post).

Ward Four.

Austin Street, cor. Douglass (post).
Austin Street, cor. Norfolk (post).
Blackstone Street, west side, 100 feet from Avenue.
Brookline Street, cor. Allston.
Brookline Street, cor. Hamilton.
Brookline Street, cor. Valentine.
Brookline Street, cor. Putnam Ave.
Brookline Street, cor. Erie.
Brookline Street, cor. Franklin.
Brookline Street, cor. Chestnut.
Brookline Street, near Henry (post).
Cherry Street, opp. Eaton.
Chestnut Street, cor. Pearl.
Columbia Street, cor Austin.
Fairmont Street, cor Andrew (post).
Franklin Street, cor. Soden.
Franklin Street, cor. Hancock.
Franklin Street, cor. Bay.
Franklin Street, near the hill.

Franklin Street, cor. Sidney.
Franklin Street, cor. Magazine.
Franklin Street, near Putnam Avenue (post).
Front Street, junct. State.
Front Street, cor. Columbia (post).
Green Street, opp Vernon.
Green Street, cor. Putnam Avenue.
Green Street, cor. Hancock (post).
Green Street, cor. Bay (post).
Green Street, midway between Hancock and Vernon (post).
Green Street, cor. Vernon (post).
Green Street, cor. Western Avenue (post).
Green Street, cor. Pearl (post).
Green Street, cor. Brookline (post).
Hews Street, cor. Putnam Avenue.
Kinnaird Street, cor. Bay.
Magazine Street, cor. Cottage.
Magazine Street, cor. Putnam Ave.
Magazine Street, cor. Warland.
Magazine Street, cor. Auburn.
Magazine Street, cor. Park.
Magazine Street, cor. Upton.
Magazine Street, opp. Hamilton.
Magazine Street, cor. Florence.
Magazine Street, cor. Green (post).
Main Street, cor. Harrison (post).
Main Street, cor. Columbia.
Main Street, cor. Winsor.
Main Street, cor. Norfolk.
Main Street, junct. Austin.
Main Street, north side, opp. Kennedy's Bakery.
Main Street, cor. Washington.
Main Street, cor. Brewery.
Main Street, cor. Portland.
Osborn Street, cor. State (post).
Osborn Street, cor. Main (post).
Pacific Street, cor. Sidney.
Pacific Street, near Albany.
Pearl Street, cor. Lake.
Pearl Street, cor. Putnam Avenue.
Pearl Street, cor. Perry.
Pearl Street, cor. Cottage.
Pearl Street, cor. Auburn.
Pleasant Street, cor. Upton.
Pleasant Street, cor. Green.
Pleasant Street, cor. Putnam Ave.
Pleasant Street, cor Somerset.
Pleasant Street, cor. Park.
Pleasant Street, cor. Prince.
Pleasant Street, cor. Pleasant Place.
Pleasant Street, cor. Chestnut.
Pleasant Street, cor. Franklin (post).
Portland Street, cor. Main (post).
Putnam Avenue, cor. Hews Street.
Putnam Avenue, opp. Ballard Place (post).
Putnam Avenue, near River Street (post).
Putnam Avenue, cor. River Street (post).
Putnam Avenue, cor. Walnut Court (post).
River Street, cor. Franklin.
River Street, opp. Cottage.
River Street, opp. Laurel.
River Street, cor. Blackstone.
River Street, opp. Fairmont.
School Street, cor. Clark.
School Street, cor. Portland (post).
School Street, cor. Clark (post).
School Street, cor. Moore (post).
Sidney Street, cor. Allston.
Sidney Street, cor. Putnam Avenue.
Sidney Street, cor. Chestnut.
Sidney Street, cor. State (post).
Sidney Street, cor. Green (post).
Soden Street, cor. Western Avenue.
Somerset, cor. Andrew (post).
State Street, opp. Village (post).
State Street, near Howe's Factory (post).
Washington Street, corner Brewery (post).
Washington Street, corner Portland (post).
Washington Street, corner Moore (post).
Waverly Street, opp. Willard's.
Western Avenue, cor. Howard Street.
Western Avenue, corner Kinnaird Street.
Western Avenue, cor. Jay Street.
William Street, between Magazine and River (post).

Ward Five.

Arlington Street, 500 feet from North Avenue.
Beech Street, east side, 20 feet from Orchard.
Cedar Street, cor. Spruce.
Cedar Street, opp. Norris.
Cedar Street, opp. Greenhouse.
Concord Avenue, c. Madison Street.
Concord Avenue, opp. Bond Street.
Concord Avenue, cor Walden Street.
Concord Avenue, opp. Eames's Estate (post).
Cogswell Avenue, cor. Mead Street.
Crescent Street, corner Sacramento (post).
Donnell Street, cor. Garden.
Dublin Street, 525 feet from Spruce.
Dublin Street, 620 feet from Walden.
Dublin Street, cor. Walden.
Dublin Street, cor. Sargent.
Dublin Street, cor. Railroad.
Fairfield Street, opp. Mr. Whitney's.
Forest Street, cor. Frost (post).
Garden Court, cor. Dublin.
Garden Street, opp. Bond.
Harris Street, cor. Forest (post).
Harvey Street, opp. Montgomery.
Hollis Street, in the elbow.
Hubbard Avenue, opp. brick block.
Hubbard Avenue, corner Raymond Street.
Lambert Avenue, near North Ave.
Lambert Avenue, cor. Shawmut Avenue (post).
Linnæan Street, cor. Avon.
Linnæan Street, cor. Bowdoin.
Linnæan Street, cor. Raymond.
Milk Street, cor. White.
Milk Street, n. Somerville line (post).
North Avenue, near railroad bridge.
North Avenue, cor. Cogswell Ave.
North Avenue, cor. Allen Street.
North Avenue, cor. Dover Street.
North Avenue, 300 feet west of Tannery.
North Avenue, corner Sacramento Street.
North Avenue, opp. Linnæan Street.
North Avenue, cor. Chester Street.
North Avenue, cor. Arlington Street.
North Avenue, cor. Rice Street.
North Avenue, cor. Cedar Street.
North Avenue, opp. Tannery.
North Avenue, near Walcott Richardson's gate.
North Avenue, cor. Beech.
North Avenue, corner Frank Street (post).
North Avenue, cor. Day Street.
North Avenue, near Blake's Blacksmith Shop (post).
Norton Street, midway.
Orchard Street, near Davenport (post).
Orchard Street, opp. Tenney Court.
Oxford Street, cor. Forest.
Oxford Street, opp. Eustis Court.
Oxford Street, cor Sacramento
Raymond Street, south side, near Mr. Dresser's Estate, two.
Reed Street, 250 feet from Harvey.
Reed Street, opp. Schoolhouse.
Rice Street, opp. L. L. Cushing's.
Richdale Avenue, corner Raymond Street.
Richdale Avenue, near Raymond Street (post).
Roseland Street, cor. Frost.
Shepard Street, cor. Avon.
Spruce Street, cor. Hollis.
Spruce Street, cor. Sargent.
Spruce Street, cor. Montgomery.
Spruce Street, cor. North Avenue.
Spruce Street, opp. Schoolhouse.
Spruce Street, cor. Clay.
Spruce Street, cor. Clifton.
Tuttle Street, opp. Ladd's Barn.
Walden Street, opp. Mead.
Walden Street, cor. Hubbard Ave.
Wallace Street, in the elbow.
Washington Avenue, cor. Dexter.
Washington Avenue, cor. Foxcroft Street.
Wyeth Street, cor. Garden.

RESERVOIRS.

Located in Ward One.

Bow Street, centre of Square.
Brighton Street, cor. Eliot.
Cambridge Street, nearly opp. Sumner.
College Yard.
Garden Street, north end AppianWay.
Holmes Place.
Junction Garden Street and Concord Avenue, opp. Arsenal.
Kirkland Street, opp. Oxford.
Main Street, cor. Dana.
Mt. Auburn Street, opposite the Church.

Located in Ward Two.

Austin Street, between Temple and Inman.
Broadway, head of Tremont.
Cambridge Street, cor. Webster Ave.
Clark Street, cor. Hampshire.
Essex Street, cor. Austin.
Harvard Street, opp. burial-ground.
Harvard Street, head of Cherry.
Harvard Street, cor. Davis.
Harvard Street, cor. Prospect.
Main Street, junct. Broadway.
Norfolk Street, midway bet. Broadway and Hampshire.
Prospect Street, 175 feet north of Broadway.
Washington Street, cor. Cherry.

Located in Ward Three.

Cambridge Street, 70 feet east of Third.
Gore Street, cor. North Third.
Junction Bridge and Gore Streets.
New England Glass Co.'s Yard.
Otis Street, cor. Fourth.
Revere Sugar Refinery Yard.
South Sixth Street, cor. Spring.
Thorndike Street, cor. Third.
Under New England Glass Co.'s Building.
Under Lowell R. R. Machine Shop.

Located in Ward Four.

Austin Street, cor. Douglass.
Brookline Street, cor. Auburn.
Junction Western Avenue and Pleasant Street.
Magazine Street, cor. William.
Main Street, cor. Austin.
Main Street, cor Brookline.
Main Street, 50 feet west of Osborn Street.
Main Street, opp. Clark.
Main Street, junct. Western Avenue and River Street.
Main Street, front of Univer. Church.
Pearl Street, cor. Franklin.
Pearl Street, near Jones & Co.'s Factory.
School Street, cor. Cherry.
Washington Street, cor. Pine.

Located in Ward Five.

North Avenue, near Engine House No. 4.
In Square, opp. Porter's Hotel.

REPORT

OF

GEORGE L. CADE,

SUPERINTENDENT OF STREETS.

To the Honorable City Council:

THE undersigned asks leave to submit for your consideration his Twelfth Annual

REPORT.

The Appropriation for Streets for the financial year ending Nov. 30, 1875, was	$95,000 00
Amount expended	94,990 20
Balance unexpended	$9 80

Expended as follows: —

For Superintendent's salary, shovels, harnesses, horses, and incidentals	$4,024 35
gravel and stone	29,399 78
labor with men and teams	51,800 95
iron-work, and repairs on carts, etc.	1,877 74
horseshoeing and repairs	792 63
hardware, etc.	558 45
hay and grain	5,158 91
lumber	512 39
shed for watering carts	865 00
	$94,990 20

The accepted streets of Cambridge, with but few exceptions, are in a fair condition. That part of Putnam Avenue which lies between Western Avenue and Mount Auburn Street is in a very bad condition in wet weather, owing principally to the clay bottom, and constant heavy teaming in filling the Franklin Street District. This street has been in bad order for a long time, and, in my opinion, should be made fifty feet in width (to correspond with that part lying south of Western Avenue to Pleasant Street) before the extensive repairs are made in the coming spring. When this street is put in good order it must become the principal thoroughfare from Boston, by the way of Brookline Bridge to Harvard College, and the most direct. But in its present condition the driving public, of necessity, avoids it. That part of the Avenue lying between River and Pleasant Streets has not been filled to grade, and should not be until some provision is made for surface drainage. A sewer should be constructed for this purpose, from Pleasant Street northerly, before grading, or the laying of a Horse Railroad track, as asked for by the Cambridge Railroad Company. North Avenue, from the Fitchburg Railroad Bridge southerly, has been put in thorough order and repair, at a cost of about twenty thousand dollars, and, in my opinion, it was money well expended.

With an appropriation of $90,000, I have no doubt that the streets can be kept in good order the coming year, including the cost of making Putnam Avenue what it should be. But this does not make provision for entering upon and making Albany and First Streets as accepted and laid out in December, 1874.

During the past year but one order for a sidewalk has been passed, and the cost for that was not assessed, as the abutters voluntarily paid for the materials to the contractor. Extensive repairs have been made during the year, in repaving the streets and sidewalks, and a number of new sidewalks have been laid at the request of abutters, they furnishing the materials therefor, that is, the edgestone and covering material, either brick or stone, as may have been required: by adopting this rule

the City saves the expense of assessing, and does not lose the interest upon thousands of dollars every year.

I would again call your attention to the necessity of paving Main Street, or at least the southerly side from Third Street to Central Square. Without doubt contracts could be made this winter at very low rates, for the materials at least, and there is no question about the economy of so doing. It is almost impossible to keep this street in a good condition, unless at a very large expense, which can be almost wholly saved by paving with small blocks.

26,575 yards of paving have been laid, and 12,746 feet of edgestone have been set.

The Appropriation for Paving for the financial year ending Nov. 30 was	$25,000 00
Amounted expended	22,567 51
Balance unexpended	$2,432 49

Not even an approximate estimate can be made as to the amount that may be required for paving the coming year, except it be for repairs, which will require not less than $20,000; further than this it will depend entirely upon what orders for sidewalks and paving may be passed by the Board of Aldermen.

I would here call your attention to the urgent needs of this Department for a supply of gravel. The gravel bank at the foot of Pearl Street is substantially used up, and nothing is left to fall back upon but the bank at Belmont, which is of an inferior quality for use on our streets. In my opinion some action should be taken by your Honorable Boards the coming spring to meet this by purchasing a gravel bank on the line of the Boston and Albany Railroad, if possible, so that our own land and track can be made available near Cambridge Street.

The regular force employed by the City in the Street Department at the present time is forty-two men and twenty-five horses.

The following streets have been graded during the past year: —

Antrim Street, partially.
Auburn " "
Beacon " its whole length.
Beech " " "
Brattle " partially.
Brewery " "
Brighton " "
Bristol " from Webster Avenue to Hampshire St.
Brookline " partially.
Broadway, its whole length.
Cambridge Street, partially.
Carson " "
Charles River " "
Cherry " "
Chestnut " "
Concord Avenue, "
Cottage Street, "
Cowperthwaite Street, partially.
De Wolf " "
Dublin " its whole length.
Eliot " " "
Ellery " partially.
Elm " "
Fairmont " "
Fifth " "
First " "
Flagg " "
Fourth " "
Franklin " "
Front " "
Garden Street, its whole length.
Gore " partially.
Green " "
Hamilton " "
Hampshire Street, partially.
Harvard " "
Holyoke " "
Inman " "

Kirkland Street, partially.
Lake " its whole length.
Lawrence " partially.
Linnæan " "
Magazine " "
Main " its whole length.
Mason " " "
Moore " partially.
Mt. Auburn " "
North Avenue, from Brattle Square to Rice Street.
Otis Street, partially.
Oxford " "
Pearl " "
Pine " "
Portland Street, partially.
Prison Point Bridge Street, partially.
Prospect Street, partially.
Putnam Avenue, "
Quincy Street, "
Reed " "
Reservoir " "
Roseland " "
School " "
Second " "
Shepard " "
Sidney " from Front to Pilgrim Street.
Sixth " partially.
Spring " "
Spruce " from North Avenue to Brickyards.
State " partially.
Story " its whole length.
Suffolk " partially.
Third " "
Thorndike Street, from First to Second Street.
Tremont " partially.
Tufts " its whole length.
Walden " partially.
Washington " "

Webster Avenue, from Cambridge Street to Somerville Line.
Willard Street, partially.
Winsor " "
Winter " "

The following Streets have been accepted during the year: —

Name.	Date.	Width.	For what Distance.
	1874.		
Athens Place,	Dec. 24,	40	Mt. Auburn St. to rear of lot on Grant St.
	1875.		
Arlington	Nov. 11,	40	North Avenue to Washington Avenue.
Acorn	Dec. 15,	40	Putnam Avenue to Chestnut Street.
	1874.		
Banks	Dec. 24,	40	Mt. Auburn Street to Flagg Street.
Beaver	"	40	Cowperthwaite Street to Flagg Street.
Bay	" 30,	40	Main Street to Kinnaird Street.
Cowperthwaite,	" 24,	40	Banks Street to De Wolf Street.
Columbia	Dec. 24,	45	Cambridge St. to Somerville Line.
	1875.		
Chestnut	May 28,	40	Pearl Street to Brookline Street.
	1874.		
De Wolf	Dec. 24,	40	Mill Street to Flagg Street.
Dyke	"	35	De Wolf Street to the Dock.
Foster	"	40	Willard Street to Sparks Street.
Flagg	"	40	Putnam Avenue to De Wolf Street.
First	" 28,	60	West B'st'n Bridge to n'th b'k of Broad Canal.
	1875.		
Fairmont	Nov. 11,	30	River Street to Pleasant Street.
	1874.		
Grant.	Dec. 24,	40	Banks Street to De Wolf Street.
Howard	" 30,	40	Western Avenue to Kinnaird Street.
Hancock	"	26	Main Street to Franklin Street.
	1875.		
Hamilton	Dec. 4,	40	Pearl Street to Brookline Street.
	1874.		
Jay	Dec. 30,	40	Western Avenue to Kinnaird Street.
Kinnaird	"	40	" " near Bay Street.
"	"	35	Putnam " " "
Lake	"	40	Magazine Street to Pearl Street.
Mill	" 24,	35	Holyoke Street to De Wolf Street.
	1875.		
Otis	Nov. 11,	40	Sixth Street to Seventh Street.
	1874.		
Otter	Dec. 24,	40	Cowperthwaite Street to De Wolf Street.
	1875.		
Pacific	Dec. 15,	40	Sidney Street to Albany Street.
	1874.		
Reed	Dec. 30,	40	Spruce Street to Harvey Street.
Soden	"	40	Western Avenue to Franklin Street.
	1875.		
Sands	Dec. 15,	40	Putnam Street to Banks Street.
Sidney	"	40	Auburn Street to Pacific Street.
	1874.		
Vernon	Dec. 30,	40	Main Street to Green Street.
	1875.		
William	Sept. 11,	40	Magazine Street to Pearl Street.
Wallace	Nov. 11,	40	Garden Street to Shepard Street.

Schedule of Property.

Twenty-three horses	$8,050 00
Twenty-seven cart and chain harnesses	1,250 00
Seventeen carts	2,200 00
Two express wagons and harnesses	325 00
One set of runners	75 00
One plough	5 00
Utensils for work on streets, etc.	450 00
Stable furniture	50 00
Stone-crusher and steam-engine	4,000 00
Eleven snow ploughs	275 00
Three street rollers	950 00
Five sleds	450 00
A lot of paving stone and blocks	1,921 65
A lot of edgestone and corners	375 00
Two hundred yards of cracked stone	500 00
A lot of stone for cracking	250 00
Railroad track on Cambridge Street lot	770 00
	$21,896 65

Bridges.

The Appropriation for Bridges for the financial year ending Nov. 30, was	$7,500 00
Amount expended	6,065 55
Balance unexpended	$1,434 45

As far as outward appearance shows, all the bridges are in a fair condition, except Prison Point Bridge, which should be rebuilt according to an Act passed by the Legislature June 1 and 23, 1870. The first Section of said Act, as amended, provides that the Cities of Cambridge and Charlestown shall forthwith cause to be constructed a draw not less than thirty-six feet in width. More than five years have elapsed, and no action has been taken by either city in compliance with the same. I think that quite extensive repairs will be required the coming spring to make this bridge passably safe, and am of the opinion that it would

be far better, and more economical in the end, to rebuild, as per Legislative Act. The probable cost of this would be from $10,000 to $12,000.

Brookline Bridge warping pier will require considerable repairs; also the warping piers of River Street and Western Avenue Bridges will need to be rebuilt the coming season. The Fitchburg Railroad Bridge on North Avenue has been partially rebuilt this year, and is considered to be in good condition.

On the 31st of August, while a drove of cattle was herded on, or being driven across, the Walden Street Bridge, it fell upon the railroad tracks a complete wreck. This bridge was built and owned by the Fitchburg Railroad Company. Said company until that day had assumed and always had kept the bridge in repair, but after its fall refused to rebuild, unless the City would agree to pay the expense, which was finally agreed upon. The bridge has been rebuilt substantially as before, with the addition of sidewalks, under the direction of the Superintendent of Streets, and was reopened for public travel Dec. 14, having been closed three and one half months.

An Appropriation of not less than $20,000 will be required for Bridges, provided that Prison Point Bridge is rebuilt, as recommended.

Respectfully submitted.

GEORGE L. CADE,
Superintendent of Streets.

REPORT

OF

THE CHIEF OF POLICE.

OFFICE OF THE CHIEF OF POLICE,
CAMBRIDGE, Dec. 1875.

To the Honorable City Council of Cambridge:

GENTLEMEN, — I have the honor to submit the Annual Report of the doings of the Police Department for the year ending Nov. 30, 1875: —

Whole number of arrests		1,791
Males	1,597	
Females	194	
Residents	1,493	
Non-residents	298	
Adults	1,594	
Juvenile Offenders	197	

Food and lodging have been furnished at the several station houses to 4,840 persons, of whom 4,597 were males, and 243 were females.

The following table will show the offences for which arrests have been made: —

Assault and battery	295	Concealing mortgaged property	4
Assault on an officer	20	Concealing death of child	1
Assault, felonious	13	Carrying dangerous weapon	1
Assault with intent to kill	1	Common railer and brawler	1
Arrested on capias	16	Drunkenness	685
Attempt at larceny	5	Disturbance of the peace	68
Attempt to procure abortion	1	Disturbing public meeting	1
Assuming to be an officer	1	Deserted from U. S. Army	1
Adultery	2	Embezzlement	7
Breaking and entering	22	Evading car fares	8
Burglary	3	Giving intoxicating liquor to prisoners	1
Bastardy	8	Highway robbery	1
Common drunkards	12	Insanity	25
Cruelty to animals	13		

Indecent exposure of person	1	Refusing to assist an officer	1
Keeping unlicensed dogs	7	Robbing U. S. Mails	4
Keeping disorderly house	3	Rape	3
Larceny	122	Setting bonfires	14
Larceny from building	12	Suspicious persons	14
Larceny from the person	1	Surrendered by bail	4
Lewd and lascivious conduct	3	Snaring birds	1
Malicious mischief	53	Stubborn children	6
Night walking	1	Stealing a ride	2
Obstructing horse-car	1	Sending threatening letter	1
Obtaining goods by false pretences	2	Truancy	4
Perjury	2	Violation of the liquor laws	56
Peddling without license	3	Violation of the Sunday law	39
Rescuing prisoner	1	Violation of the City Ordinances,	140
Receiving stolen property	6	Vagrancy	36
		Wilful trespass	32

A portion of the miscellaneous work of the Department may be classified as follows: —

Amount of property reported stolen	$4,016 00
Amount recovered by this Department	2,428 00

Accidents reported, where the injured parties were assisted	34
Alarms of fire given by officers	25
Buildings found open in the night and secured	69
Dead bodies found and taken care of	7
Dead bodies recovered by grappling	4
Defects in water and gas pipes reported	173
Defects in streets and sidewalks	171
Dogs killed	49
Disturbances suppressed	74
Fires extinguished without alarm	8
Intoxicated persons assisted home	193
Lost children restored to friends	97
Stray teams taken care of	25

In addition to this, portions of the Department have attended all fires, and have been instrumental in saving property from destruction by fire, and from pillage after its removal. I have also received the thanks of the Chief Engineer of the Fire Department for assistance rendered him by keeping the streets in the immediate vicinity of fires clear of crowds, which so much obstruct the operations of the firemen, and I take pleasure

in saying that these Departments have worked harmoniously together for the common good.

Total cost of the Department for the year: —

Appropriation	$72,000 00

Expenditures: —

Pay of Chief	$2,000 00
Sundry officers' services	64,716 00
Fuel for station houses	900 92
Bills of Cambridge Gas Light Co.	807 99
Horse keeping	648 00
Horseshoeing	60 87
Repairs of station houses	851 76
Care of Police Court room	100 00
Incidental expenses, including supplies for prisoners, water rates, medical attendance, carriage hire, etc.	1,007 81
Total	$71,093 35

Amount paid into the Treasury on account of services on warrants, witness fees, etc.	4,412 09
Balance showing actual cost	$66,681 26

The force consists of one chief, four captains, and fifty-five patrolmen, and its organization remains substantially the same as last year, the only change being that one man, officer Warner W. Simonds, has been detailed to assist Capt. Hagar in his supervision of the night force. The events of the past year have strengthened my convictions that there should be at least one officer in each of the First and Third Districts, with the rank of sergeant, to assist Capt. Hagar in his duties.

Another matter to which I wish to call the attention of the City Government is the manner in which the appointments of the officers are made.

The value of a faithful officer's service to the City is increased by each year's experience and observation, and, unless he should break down physically, he should be retained during good behavior. I am informed that an application to the Legislature

would be necessary to legalize any change in the form of appointment, and, therefore, recommend this matter to the early attention of the incoming City Government.

I make these suggestions entirely in the interests of the patrolmen; and should any change be made, the chief, and other officers of rank, could be excluded from its provisions, should it be deemed best. I also renew my recommendations of last year, that some qualifications (as regards age and physical ability) be established by ordinance for applicants for positions on this force.

The number of arrests during the last year has been 133 less than for the year preceding; and this difference has been in the arrests for drunkenness, and is, in my judgment, owing to hard times, and the consequent scarcity of money with that class of unfortunates who furnish so large a proportion of the arrests for this offence.

The new building in Brattle Square, designed for a police station, court-room, ward-room, engine-house, etc., has been completed during the past year, and is now ready for occupancy. The building itself is an ornament to the City, and the portion of it allotted to the use of the Police will fulfil all the requirements of a first-class station-house. The other station-houses of the City are generally in very good condition, the one at North Cambridge having been ventilated during the past year, and it is not expected that any serious outlay will be required during the coming year.

The City, during the past year, has enjoyed its usual immunity from crimes of any magnitude, and although I am not egotistical enough to believe this to be owing entirely to the operations of a well-regulated and efficient police force, I take some pride in stating the fact.

In conclusion, I wish to return my sincere thanks to all the officers of my command, for their cheerful compliance with all the requirements of duty; and to the police departments of Boston and other places, for assistance cheerfully rendered whenever opportunity offered.

Respectfully submitted.

GEORGE H. COPELAND,
Chief of Police.

REPORT

OF

JOHN CAHILL,

SUPERINTENDENT OF LAMPS.

To his Honor the Mayor and City Council of the City of Cambridge:

GENTLEMEN, — I herewith submit my Second Annual Report in relation to the Department of Lamps for the year ending Nov. 30, 1875.

The whole number of Street Lamps is as follows: —

District One	285 gas		11 fluid
District Two	289 gas		27 fluid
District Three	101 gas		15 fluid
	675 gas		53 fluid
Total		728	

19 of the above lamps were added during the year: 5 posts and lanterns were paid for by the City, and 14 were paid for by the abutters.

The following is an exhibit of the expenses of the Department for the year ending Nov. 30, 1875: —

For gas	$12,856 60
Care of lamps and lighting	5,572 85
Posts, lanterns, and repairs	1,663 78
Fluid, matches, etc.	260 53
Superintendent's salary	400 00
Total	$20,753 76

The average cost of each lamp burning gas through the year was about seven cents per night, and the cost of each lamp burning fluid for the same time was about three quarters of a cent per night. Six men are employed to light the lamps, and keep the lanterns clean; and they are paid fifty cents per month for each lamp, and two shillings extra for each lamp that is left burning all night.

The materials used are of the best quality; the post is the Boston pattern, and the lanterns are manufactured from fourteen ounce copper.

I have succeeded in further reducing the cost of the post and lantern from $25 to $23, including setting.

I have also made arrangements by which all posts set in future under my superintendence must weigh 350 pounds net instead of 270 pounds as formerly. They will be furnished for the same price as the old post.

Under instructions from the Committee on Lamps all lamps burning naphtha will be replaced by kerosene lamps; this change meets my hearty approval, feeling that the kerosene lamp will give better light and more general satisfaction than the old naphtha lamp.

During the year 6 lamp posts have been removed from their original positions and relocated.

Respectfully submitted.

JOHN CAHILL,

Superintendent of Lamps.

REPORT

OF

JOSIAH G. CHASE,

CITY ENGINEER.

City of Cambridge, Office of City Engineer,
Dec. 15, 1875.

To the Honorable the City Council:

Gentlemen, — I herewith present my Report, relating to the Department of City Engineering, for the year ending Nov. 30, 1875.

SEWERS.

Sewers have been constructed during the past year, as exhibited in the annexed table.

DETAILED STATEMENT OF SEWERS BUILT FROM NOVEMBER 30, 1874, TO DECEMBER 1, 1875.

Location.			Construction.							Total cost.
In what Street.	From	To	Contractor.	Material.	Size. in Inches.	Catch Basins.	Man Holes.	Inlets.	Length in Feet.	
Allston.	Pearl St.	easterly.	Samuel McCulloch.	Cement pipe.	12			9	220.70	$250 25
*Broadway.	Sixth St.	Hampshire St.	Wm. C. Poland & Son.	Brick.	48		1		993	
Banks.	Sands St.	northerly.	Samuel McCulloch.	Cement pipe.	10			13	243.70	279 77
Binney.	Ninth St.	Marsh flats.	Wm. C. Poland & Son.	Brick and wood.	96 x 100		4	404	2,375.97	
*Bristol.	Portland St.	Ninth St.	Wm. C. Poland & Son.	Brick.	90 x 90		1		880.50	
Cambridge.	Distilhouse St.	Webster Av.	Charles Linnehan.	Brick and invert.	36 x 40	7	6	104	457.47	9,103 33
Cambridge.	Webster Av.	Hampshire St.	Charles Linnehan.	Brick and invert.	36 x 36				1,710.35	
College whf.	Charles River.	northerly.	J. J. Harlow, foreman.	Wood.	24 x 24				274	483 48
Elmer.	Sands St.	northerly.	Samuel McCulloch.	Cement pipe.	10			29	424.38	494 06
Flagg.	Banks St.	easterly.	Samuel McCulloch.	Cement pipe.	12			9	185.42	212 00
Franklin.	Hancock St.	Bay St.	Samuel McCulloch.	Cement pipe.	20		1	20	346.90	734 75
Garden.	Appian Way.	easterly.	Samuel McCulloch.	Cement pipe.	12			4	163	187 22
Green.	Brookline St.	Pearl St.	Samuel McCulloch.	Cement pipe.	12			15	328.80	380 79
*Hampshire.	Broadway.	Portland St.	Wm. C. Poland & Son.	Brick.	48		1		515.60	
‡Hancock.	Franklin St.	Green St.	O. P. Roberts.	Brick and invert.	36 x 30					
Inman.	Cambridge St.	Broadway.	Timothy Murphy.	Brick. †	24		2	59	1,112.90	2,188 62
Jay.	Western Av.	Kinnaird St.	O. P. Roberts.	Brick and invert.	36 x 30		4	76	1,180.15	7,100 59
Kinnaird.	Jay St.	westerly.	O. P. Roberts.	Brick and invert.	36 x 30					

Kinnaird.	near Jay St.	Bay St.	Samuel McCulloch.	Cement pipe.	15			43	313	1,081 26
Kinnaird.	Bay St.	near Putnam Av.	Samuel McCulloch.	Cement pipe.	12		1		364.75	
Lakeview Av.	Vassal Lane.	southerly.	O. P. Roberts.	Cement pipe.	20			88	549.45	2,778 66
Lakeview Av.		south of Huron St.	O. P. Roberts.	Cement pipe.	15		2		875.10	
Main.	Harvard St.	Pioneer St.	Stephen H. Tarbell.	Brick.	20 x 24		2	35	637.50	1,643 23
North Av.	Holmes Place.	Kirkland St.	Samuel McCulloch.	Cement pipe.	12	2		3	362 90	568 68
§Portland.	Hampshire St.	Bristol St.	Wm. C. Poland & Son.	Brick.	90 x 90		2		577.80	
Putnam Av.	Rugg Place.	Br'ge or Mill Pond	Samuel McCulloch.	Cement pipe.	12	2		11	253.10	461 86
Putnam Av.	Pearl St.	Magazine St.	Samuel McCulloch.	Cement pipe.	12			20	505.50	583 80
Seventh.	Otis St.	northerly.	Samuel McCulloch.	Cement pipe.	12			8	140	161 90
South.	Holyoke St.	westerly.	Samuel McCulloch.	Cement pipe.	10			4	121	137 29
Spring.	near Second St.	Third St.	Samuel McCulloch.	Cement pipe.	12			3	151.70	169 44
Sparks.	Brattle St.	northerly.	Joseph Fox.	Brick.	16	2	1	32	523.60	931 30
Tremont.	Cambridge St.	south.	Samuel McCulloch.	Cement pipe.	12			17	278.35	337 16
Wallace.	Garden St.	westerly.	Samuel McCulloch.	Cement pipe.	15	2	2	39	474.85	1,298 04
Wallace.	Garden St.	near Shepard St.	Samuel McCulloch.	Cement pipe.	12				234	

SEWERS BUILT BY PRIVATE PARTIES UNDER SUPERVISION OF CITY ENGINEER.

Bristol.	Portland St.	westerly.	Boston Rolling Mill.	Cement pipe.	12				132	
Distilhouse.	Cambridge St.	northerly.	Daniel R. Sortwell.	Brick and stone.	14 x 13				206	
Fifth.	Munroe St.	Bent St.	E. Cambridge Land Co.	Cement pipe.	15 and 12				753	
Seckel.	Webster Av.	westerly.	Henry Vandine.	Cement pipe.	12				192.90	
				Totals		15	30	1,045	19,059.34	$31,567 48

* Part of the "Binney Street sewer."
† Wood bottom substituted over quick sand foundation.
‡ Part of the "Jay and Kinnaird Streets sewer."
§ Part of the "Binney Street sewer."

Binney Street Sewer.

A contract was made on the second day of January last, with Messrs. Wm. C. Poland & Son, for the construction of the Binney Street Sewer, so called. Work was commenced thereupon the twenty-sixth day of April, and, by the terms of said contract, was to have been fully completed on or before the 15th of November following. At the expiration of the time therein agreed upon said sewer was so far from its completion that it was deemed, not only impracticable, but impossible, to complete it at this season of the year, and, by agreement entered into on the twentieth day of November, the Committee on Sewers and Drains extended the time from Nov. 15, 1875, to June 1, 1876. That portion of said sewer now built is given in the foregoing table, and the amount of expenditure thus far has been $88,287.25. This includes the sum of $6,670.75 paid for dredging Broad Canal and diverting the Hampshire Street sewer outlet, in accordance with requirements of the Supreme Judicial Court. The total cost, accompanied by a detailed description of this sewer as to its construction, will be given after its completion.

Kinnaird, Franklin, and Bay Streets Sewers.

On the twenty-sixth day of October a contract was given Mr. Samuel McCulloch, by the Committee, for building sewers in Kinnaird, Franklin, and Bay Streets. That portion of the contract relating to Kinnaird and Franklin Streets has been complied with and the results are above given. The agreement relating to Bay Street has not, from the severity of the weather, been complied with, but postponed to a more favorable season.

Florence Street Sewer.

November 6 the Committee on Sewers and Drains awarded to Stephen H. Tarbell & Co. the building of a sewer in Florence Street, as ordered. This work has not as yet been performed.

Plans and profiles for each and all the above sewers have been completed in detail for assessment and for record.

During the year ending Dec. 1, 1875, 302 permits to enter private drains into common sewers have been granted, as provided by the ordinances relating thereto.

On the 26th of May last, a more restrictive ordinance was passed relating to our common sewers. Under this ordinance the Committee on Sewers and Drains has licensed sixteen persons as drain-layers in the different wards of the city as follows: in Ward No. 1, 3; in Ward No. 2, 6; in Ward No. 3, 1; in Ward No. 4, 5, and in Ward No. 5, 1. The provisions of this ordinance should be rigidly and impartially enforced, or its requirements annulled by the City Council, and care should be taken that none but competent and honest persons are licensed under it to carry out its intent. Although complaints have been made in the Police Court during the season against sundry individuals for violating said ordinance, yet still the desire and effort are apparent to evade the design of the ordinance by adapting the work required to the ideas of the individual, whether in conformity with proper city requirements or not.

1,056 catch-basins, with a large number of manhole dirt-catchers, have been cleaned during the year and their contents carted away, amounting to 4,035 loads, at a cost of $2,400.50, or 59½ cents per load.

In connection with the sewers enumerated, 30 manholes have been built and 54 catch-basins have been constructed, including those under sundry orders for required improvements in surface drainage.

Sewers have been built in 31 different streets, with an aggregate length of $19{,}059\frac{34}{100}$ feet, equal to $3\frac{61}{100}$ miles. The total length of sewers in the City is $58\frac{158}{1000}$ miles.

Appropriations were made as follows: —

Sewers and Drains	$50,000 00
Binney Street Sewer	136,000 00
Bridge Street Sewer	6,102 25
Total	$192,102 25

From which the expenditures have been the following: —

Bridge Street Sewer	$6,102 25
Binney Street Sewer	88,287 25
Sewers enumerated above	31,567 48
Cleaning out catch-basins and manholes . .	2,400 50
Care and repairs, constructing catch-basins under special orders, and payments on sewers mentioned in last annual report . . .	7,384 80
Total expenditure for the year ending Nov. 30,	$135,742 28

STREETS.

There have been laid out during the year, and dedicated by the City Council to public use, thirty-four streets, as enumerated in the following table.

STREETS LAID OUT FROM DECEMBER 1, 1874, TO DECEMBER 15, 1875.

Locality.			Description.				
Name of Street.	From	To	Width in Feet	When laid out.	Date of Plan.	Plan and Profile by Whom.	Length in Feet.
Acorn Street	Chestnut Street	Putnam Avenue	40	Dec. 4, 1875.	June 7, 1875.	Fuller & Whitney.	300.00
Athens Place	Mt. Auburn Street	near Grant Street	40	" 24, 1874.	Nov. 1874.	City Engineer.	297.00
Arlington Street	North Avenue	Washington Avenue	40	Nov. 11, 1875.	Oct. 1, 1874.	E. F. Bowker.	1,107.40
Banks Street	Mt. Auburn Street	Flagg Street	40	Dec. 24, 1874.	Nov. 1874.	City Engineer.	953.00
Beaver Street	Cowperthwaite Street	Flagg Street	40	" 24, 1874.	" 1874.	City Engineer.	373.00
Bay Street	Main Street	Kinnaird Street	40	" 30, 1874.	" 1874.	City Engineer.	580.00
Cowperthwaite Street	Banks Street	De Wolf Street	40	" 24, 1874.	" 1874.	City Engineer.	615.00
Columbia Street	Cambridge Street	Somerville line	45	" 24, 1874.	Aug. 1, 1874.	E. F. Bowker.	493.00
Chestnut Street	Pearl Street	Brookline Street	40	May 28, 1875.	Mar. 1, 1875.	Fuller & Whitney.	496.30
De Wolf Street	Mill Street	Flagg Street	40	Dec. 24, 1874.	Nov. 1874.	City Engineer.	855.00
Dyke Street	De Wolf Street	the Dock	35	" 24, 1874.	" 1874.	City Engineer.	570.00
Foster Street	Willard Street	Sparks Street	40	" 24, 1874.	" 1874.	City Engineer.	580.00
Flagg Street	Putnam Avenue	De Wolf Street	40	" 24, 1874.	" 1874.	City Engineer.	705.00
First Street	West Boston Bridge	north bank Broad Canal	60	" 28, 1874.	Dec. 7, 1874.	Barbour & Hodges,	250.00
Fairmont Street	River Street	Pleasant Street	30	Nov. 11, 1875	May 7, 1874.	E F. Bowker.	470.60
Grant Street	Banks Street	De Wolf Street	40	Dec. 24, 1874.	Nov. 1874.	City Engineer.	585.00
Howard Street	Western Avenue	Kinnaird Street	40	" 30, 1874.	" 1874.	City Engineer.	813.00
Hancock Street	Main Street	Franklin Street	26	" 30, 1874.	" 1874.	City Engineer.	428.00
Hamilton Street	Pearl Street	Brookline Street	40	" 4, 1875.	Sept. 20, 1875.	Fuller & Whitney.	492.30
Jay Street	Western Avenue	Kinnaird Street	40	" 30, 1874.	Nov. 1874.	City Engineer.	615.00
Kinnaird Street	Putnam Avenue	near Bay Street	35	" 30, 1874.	" 1874.	City Engineer.	475.00
Kinnaird Street	Western Avenue	near Bay Street	40	" 30, 1874.	" 1874.	City Engineer.	1,265.00
Lake Street	Magazine Street	Pearl Street	40	" 30, 1874.	Dec. 1874.	Barbour & Hodges,	449.42
Mill Street	Holyoke Street	De Wolf Street	35	" 24, 1874.	Nov. 1874.	City Engineer.	670.00
Otis Street	Sixth Street	Seventh Street	40	Nov. 11, 1875.	May 8, 1874.	E. F. Bowker.	160.00
Otter Street	Cowperthwaite Street	De Wolf Street	40	Dec. 24, 1874.	Nov. 1874.	City Engineer.	165.00
Pacific Street	Sidney Street	Albany Street	40	" 15, 1875.	" 10, 1875.	E. F. Bowker.	760.49
Reed Street	Spruce Street	Harvey Street	40	" 30, 1874.	" 10, 1874.	W. A. Mason.	1,363.00
Sands Street	Putnam Avenue	Banks Street	40	" 15, 1875.	Aug. 24, 1875.	Barbour & Hodges,	283.15
Sidney Street	Auburn Street	Pacific Street	40	" 15, 1875.	Nov. 10, 1875.	E. F. Bowker.	521.87
Soden Street	Western Avenue	Franklin Street	40	" 30, 1874.	" 10, 1874.	City Engineer.	463.00
Vernon Street	Main Street	Green Street	40	" 30, 1874.	" 1874.	City Engineer.	214.00
William Street	Magazine Street	Pearl Street	40	Sept. 11, 1875.	June 1, 1875.	Barbour & Hodges,	446.52
Wallace Street	Garden Street	Shepard Street	40	Nov. 11, 1875.	Sept. 9, 1875.	Barbour & Hodges,	811.00

By the above there is added to the extent of public streets an area of 774,234 square feet and a length of $3\frac{717}{1000}$ miles.

Twelve stone bounds have been set to permanently indicate the lines of new streets.

Brattle and Eliot Squares have been improved by the raising of the grade in front of and upon the side of the new Engine House Building located upon said squares. The expense attending this improvement in filling material and alteration of catch-basins has been $3,802.67.

Low Land Districts.

During the year the following low land and nuisance districts have been fully completed and reported to the Honorable Board of Mayor and Aldermen as follows: —

Sidney Street nuisance, reported Dec. 7, 1874.
Miller's River District, reported Jan. 8,1875.
Sparks Street District, reported Jan. 12, 1875.
Putnam Avenue District, rèported March 30, 1875.

The Franklin Street District is not yet fully completed. Final work upon its streets cannot be performed before the coming spring.

The appropriation for filling low lands was $122,000.00, and payments have been made as follows: —

Cowperthwaite Street District, balance and awards	$3,753 48
Sidney Street	2,530 42
Miller's River District	1,167 20
Sparks Street District	4,359 47
Putnam Avenue District	7,937 25
Franklin Street District	63,132 86
Washington Steet District and Engineering	212 80
Total amount of payments for the year,	$83,093 48

Bridges.

West Boston Bridge has been thoroughly repaired the past season, and the old, cumbersome, decayed draw has at last

surrendered its place to a new centre-pivot draw. This bridge, with the Craigie's Bridge, rebuilt last year, is under the care and management of special commissioners, and from their report will be obtained all matters relating to them in detail. Their condition as to safety is unquestionable. The Walden Street Bridge over the Fitchburg Railroad was broken down on the thirty-first day of August last by the passage of a drove of cattle over it. It has been rebuilt, was again opened for public travel on the 14th of the present month, and is now in good condition.

The other bridges, maintained in whole or in part by the City, being the North Avenue Railroad Bridge, the Brighton Street, Western Avenue, River street, and Brookline Street Bridges over Charles River, the Sixth Street and Third Street Bridges over Broad Canal, and the Prison Point Bridge, are in good condition as to safety for travel over them with the exception of the last, which remains, with the slight repairs made yearly, in the same condition referred to in my reports for 1871, 1872, 1873, and 1874. It should be rebuilt the coming season, as provided by Legislative enactment. These bridges are severally under the care of the Superintendent of Streets, whose report will embrace all matters in detail relating to them as to repairs or otherwise.

Water Works.

Initiatory steps were taken in 1873 towards the protection and improvement of our source of water supply, by diverting drainage, which had previously discharged into Fresh Pond, through a sewer constructed for its conveyance into Alewife Brook at a point distant from its source in the pond.

The past season equally important and progressive steps have been inaugurated by the Water Board for increasing the capacity of Fresh Pond and improving the quality ot its water.

Early in the season tide-gates were constructed in Alewife Brook near Broadway, Somerville, under the authority granted by the Legislature, and the brook was thoroughly cleaned of obstructions and rubbish, as well as deepened, from its source

to its discharge into Mystic River. The work has in every respect proved adequate to all expectations.

Arrangements having been made for taking the waters of Spy and Little Ponds and Wellington Brook as additional supply, the Water Board, on the 1st of June, contracted with Wm. C. Poland & Son for the building of a conduit to unite said sources with Fresh Pond. The design was for a water-tight conduit, to be of wood and brick, its sectional area being $10\frac{65}{100}$ square feet, and its length 4,114.63 feet, with gate-houses at Fresh Pond, Wellington Brook, and Little Pond, so arranged as to control the amount and the source from which the supply is received, or to exhaust the conduit for examination and repairs. By the terms of the contract this work was to have been fully completed on or before the first day of September last. It is not yet completed and accepted by the Water Board, although in the prosecution of the work no unusual or unexpected obstacles occurred.

Later in the season work was commenced to dredge and excavate to a proper depth the unsightly animal and vegetable deposits, as well as mud, from the northeasterly section of the pond, embracing quite a large extent of its borders, grading the shore with the material to a required height, paving the slopes into the pond with stone, substituting for Alewife Brook a brick sewer from the pond —— feet in length northeasterly, and constructing on the margin a permanent gate-house, to regulate the height of water in the pond, or reject the marsh and impure low-land waters at will. This work will be substantially completed before the close of the present month; still, that further and greater improvement is needed, and will in time be made, regarding our water supply, requires little foresight to predict.

The matters herein referred to have, in the preparation of plans, surveys, superintendence and prosecution of work, required the almost constant supervision of the City Engineer or his assistants.

I deem comment upon the advantages to be derived from the improvements enumerated, upon details or cost of same, merely cumulative information to that conveyed by the report of the Water Board.

Cemetery.

Improvements referred to in my last Annual Report have been carried out by the Commissioners. The unimproved grounds in front of the lodge have been filled with good material to a height required to make the same available. This work was done in the winter season of 1874 and 1875, economically as to time and cost. By the reclamation of this land, 37,260 square feet, the general appearance of the cemetery is largely improved, and forty-nine new lots are added to those heretofore made available for sale.

Surveys, plans, measurements of material, etc., for this work have been made, and the laying out of lots and all other requirements met during the year. I can only renew the suggestions made in a past annual report, dated Dec. 18, 1872, relating to the needs of the Cemetery for more land and a new street from Mount Auburn Street, and refer for matters of the year in detail to the report of the Commissioners of the Cambridge Cemetery.

General Survey of the City.

Since my last Annual Report no assistance has been employed exclusively for completing this work, and only such time has been devoted to it as other demands upon the office would allow. The unusual requirements for attention in other directions have prolonged the time anticipated for completion, and explain its present condition. The principal part of the work is performed, and details only are now required. This information is being obtained at the present time, the general map is under way, and this winter will be in part devoted to the preparation of sectional plans for general information, as well as the finishing the body of the work.

Office.

Permanently and transiently thirteen persons have been employed the past year.

To meet the expenses of the office an appropriation of $10,000.00 was made, and the expenditures charged to the

appropriation have been $8,996.72, which sum includes the salary of the City Engineer, pay of assistants, stationery and draughting material, spikes and hardware, repairs of instruments, stone bounds and laborers setting same, stakes for sundry uses, conveyance and car fares; and, combined with the above to make up the "detailed expenses of the Department of Engineering," are bills paid for mounting City maps for the use of the different departments of the City, schools, fire, etc., $328.60; binding plans, $51.00; and for building a vault in the City Hall Building, ordered and approved by the Committee on Public Property, to Wm. C. Poland & Son, $792.00; to same, extra, $25.12; for carpenter's work on same, $457.90; to architect for plan, $87.00; total for vault, $1,362.02; all of which are included in the expenditure above named.

Respectfully submitted.

J. G. CHASE,

City Engineer.

REPORT

OF THE

COMMISSIONER ON WEST BOSTON AND CANAL BRIDGES.

The Commissioner on West Boston and Canal Bridges submits for himself and associate his Fifth Annual Report of matters relating to the care and management of said bridges.

West Boston Bridge.

Proposals were advertised for in May for repairing the draw-pier, widening the draw-ways, and building a new draw on this bridge, in accordance with the plans and specifications prepared by our Engineer, H. M. Wightman. The highest bid received was $40,000; the lowest, $37,200. A contract was made May 20, 1875, with the lowest bidders for doing the work, — Messrs. Ross & Lord.

The contractors were to repair and remodel the draw-pier by driving, capping, and planking, from low water to the top, a row of oak piles entirely around the outside, making it 55 feet 6 inches wide. The open spaces in the centre of the pier were to be filled by driving and capping oak piles, and putting on floor stringers, and planking. Portions of the pier were to be cut down to accommodate the increased length of the draw, the engine house, engine, and appurtenances to be moved about ten feet southerly, new piles to be driven and capped for the foundation of the draw, a new track-circle constructed, and the northerly end of the pier entirely rebuilt.

The draw-ways were each to be widened six feet by pulling up the pile piers forming the old draw landings, and driving and fitting up new piers on the lines of widening.

A new draw, with wooden trusses, supported at their centres by cross girders of wrought iron, by means of which the entire weight of the draw could be carried on the centre pivot, was also to be built and put in position for use, in such a manner as not to stop travel over the bridge for a longer period than three weeks.

The entire work has been performed without stopping travel over the bridge but one day longer than the specified time, and has been done in a thorough and workmanlike manner.

The draw is the only one of its kind on Charles River, and, although the trusses and flooring are similar in design to the one on Canal Bridge, it differs from it by being capable of being turned end for end. It can, therefore, be kept turning while a vessel is going through the draw-way, and by the time the vessel is through the draw is in place for travel.

In addition to the improvements connected with the new draw, the roadway of the bridge from the draw to the Cambridge end has been repaved (with the exception of the space between the tracks) with granite blocks; the curbstones on this section of the bridge have also been reset and the sidewalks relaid.

It is the intention of the Commissioners to repave the section of the bridge on the Boston side of the draw in the same manner early in the spring. Their reason for not doing this work the present season was that the wood pavement being in better condition on this section it was thought it would last through the winter.

The fences on both sides of the bridge will require repainting next season, and when this is done, and the repaving completed, it is not anticipated that any but the ordinary expenses of maintenance will have to be incurred for many years.

Canal or Craigie's Bridge.

By Chap. 191 of the Acts of 1875, the Boards of Mayor and Aldermen of the Cities of Cambridge and Somerville are

required to extend the main sewer, now terminating at the Harbor Commissioners' line at the Cambridge end of the Canal Bridge, towards or into the deep water channel of Charles River. As this work must be done within two years from the passage of the Act (May 8, 1875), it is probable that some steps will be taken towards its accomplishment during the coming year. If this extension is to be built underneath the bridge, it can hardly fail to involve tearing the bridge up to a considerable extent at much expense and inconvenience to the public, and the Bridge Commissioners are of the opinion that it is feasible and very desirable to extend the sewer outside of the lines of the bridge in such a manner as not to interfere with it.

The bridge is at present in good order. The Commissioners have, during the year, repaired the old draw-pier on the northerly side of the bridge, and built upon it a house for the bridge superintendent. The house was designed by L. Frederick Rice, architect, and is a tasteful as well as substantial structure.

No settlement has yet been effected with Mr. Clark B. Woods for land taken and damages occasioned by widening this bridge, he having appealed from the Commissioners' award. The case is now in court, and will probably come up for trial within a short time.

Appended to this Report is a statement of the payments made by the City of Cambridge on account of the bridges, from Dec. 1, 1874, to Dec. 1, 1875, together with a statement from the bridge superintendents of the number of times the draws were opened during the same period.

Mr. Smith, the Superintendent of Canal Bridge, has, in addition to the duties required of him by the Commissioners, kept an account of the amount and kind of freight passing through this bridge during the past year, and as it will be of interest to many it is hereto appended.

Respectfully submitted.

EZRA PARMENTER,

Commissioner for Cambridge.

Number of times the draw in West Boston Bridge has been opened during the following months. Charles W. Blaney, Superintendent; John McNulty, Engineer.

December, 1874	36
January, 1875	2
February, "	0
March, "	11
April, "	92
May, "	200
June, "	163
July, "	292
August, "	219
September, "	285
October, "	171
November, "	187
Total	1,658

Number of times the draw on Canal Bridge has been opened during the following months. A. W. Smith, Superintendent.

December, 1874	37
January, 1875	0
February, "	0
March, "	35
April, "	219
May, "	307
June, "	311
July, "	323
August, "	377
September, "	436
October, "	345
November, "	330
Total	2,720

Statement of the amount and kind of freight which passed through Canal Bridge during the year ending Dec. 1, 1875: —

818 tons	Cast-iron pipe.
32,122 "	Granite and other stone.
128,701 "	Coal.
403 "	Slate.
141,770 "	Gravel and sand.
37,460 bbls.	Lime and cement.
6,904 cords	Wood.
1,279 M.	Bricks.
1,612,000 ft.	BM. Lumber.
30,400	Fence posts.
5,954	Piles.

The expenses of Cambridge for the care and maintenance of West Boston and Canal Bridges for the year 1875 were as follows: —

Commissioner's salary	$500 00
Superintendents, assistants, and others	2,735 75
Repairs and materials	449 62
Paving and materials	6,006 41
Rebuilding draw, West Boston Bridge	19,144 20
Rebuilding Canal Bridge	1,293 96
Superintendent's house, Canal Bridge	1,249 49
Gas and fuel	1,108 24
Watering	266 00
Supplies and sundries	374 17
	$33,127 84

ANNUAL REPORT

OF THE

TRUSTEES OF THE DANA LIBRARY.

In presenting their Eighteenth Annual Report to the City Council, the Trustees of the Dana Library express their gratification for the patronage of the public, which has been greater than the most sanguine of the Board expected, when, two years since, it was decided that the use of the Library should be free to all. The continued increase of subscribers, and of circulation, shows the great interest and appreciation entertained by all classes of our people in a Free Public Library.

The business of the Library has been conducted with great efficiency and success by the librarian and her assistants; and in a manner pleasing to the Trustees, and to the public. Nothing has transpired to indicate a contrary conclusion.

It was stated in the Report of last year that one very considerable item of expense for this year would be the preparation and printing of a catalogue. This has been done by the librarian, with some temporary assistance, in a very satisfactory manner, and we now have a complete list of the books, accessible and convenient to all who visit our rooms. A new system of delivery has been adopted, similar to that in use in the leading libraries of our country, which proves to be a gratifying success; for by it the labors of the officials are lightened, and the patrons of the Library are enabled to make their selections with more ease and rapidity.

The Library was closed to the public from July 1 to Sept. 13, two and a half months, in order to prepare the catalogue for the press. This season was selected as being the time of year when many are absent on vacation, consequently fewer

would be discommoded by the interruption to their reading. Our statistics, therefore, cover a period of nine and a half months.

STATISTICS.

Number of books given out in 1874	47,327
" " " " 1875	62,289
Increase, nine and a half months	14,962
In the same ratio, had the Library been open throughout the year, the issues would have been	75,264
Issued first quarter of 1875	16,154
" second " "	22,115
" third " " June only	3,791
" fourth " " two and a half months,	20,229
Total	62,289
Largest issue for any day (April 10)	590
Average per day	257

The coming year will no doubt show a still greater increase. For the months of October and November, just past, the issues were nearly equal to the whole number of volumes in the Library. Such a circulation is very great, whether a library be large or small.

Number of subscribers at the close of 1874	1,871
" " " " 1875	4,247
Increase	2,376
Number of volumes in the Library	8,268

RECEIPTS FOR THE YEAR.

For fines	$45 05
Catalogues sold	83 75
Waste paper sold	12 34
	$141 14

All of which has been paid into the City Treasury.

Number of works added in 1875 608

Of these, 477 were purchased from the City's appropriation, 75 from the income of Isaac Fay's legacy, and the remainder were donations from the following persons : —

From Hon. J. M. S. Williams .	16	From Mr. John Wilson . . .	8
Hon. E. P. Smith . . .	1	U. S. Bureau of Education,	1
State of Massachusetts .	12	City of Cambridge . . .	2
Prof. G. H. Talbot . . .	3	Mr. J. G. Cupples . . .	1
The Cobden Club . . .	2	Dr. W. W. Wellington .	4

Catalogues of the Public Libraries of Brighton, Brookline, Newton, Lawrence, Lynn, and Waltham.

The Reading Room in connection with the Library has been visited by an increased number. The whole number of visitors for the year was 9,667.

EXPENSES.

Amount of the City's Appropriation . . .	$6,050 00
Librarian, assistants, superintendent of reading-room, and extra assistance employed in the preparation of the catalogue	2,076 53
Rent and care of rooms	753 00
Books, newspapers and periodicals, and stationery .	1,429 04
Printing catalogue	1,139 96
Book-case, mats, etc.	88 31
Lighting, fuel, expressage, and sundry petty expenses	553 20
	$6,040 04

Mr. Isaac Fay, a citizen of Cambridge, in the year 1873 bequeathed to the Library the sum of $1,000, the income of which is to be expended by the Trustees in the purchase of books. The money was recived in 1874, invested in the City's note, and the income to the 30th November last was duly received, and expended as directed by the donor.

It is hoped that before many years, a plan will be devised to furnish ampler accommodation for this increasing Library. At present we are much cramped for room, and, if the present

ratio of increase continues, more space for shelves will be required during the coming year. The Librarian, in her report to the Trustees, remarks: "The time is not far distant when the rooms now occupied by the Library will be too small, not only to accommodate our patrons, who are now often crowded at busy times, but to afford shelf-room for the books. It is very important that the new arrangement of the books be preserved, and this is already difficult with our present accommodations."

Respectfully submitted.

ISAAC BRADFORD.
WM. L. WHITNEY.
GEORGE F. PIPER.
JOHN S. MARCH.

DEC. 22, 1875.

REPORT

OF THE

TRUSTEES OF THE DOWSE INSTITUTE.

To the Honorable City Council of Cambridge:

The Board of Trustees of the Dowse Institute respectfully reports: —

From the Annual Report of the Treasurer, herewith transmitted, it appears that the receipts for the last season were $2,727.21, and the expenditures were $2,552.75, leaving a balance in the treasury of $174.46.

The Annual Report of the Treasurer contains an exact account of the receipts and expenditures.

The Course before the Institute last season was given in Union Hall, and consisted of Lectures by George Dawson, Henry Ward Beecher, Anna Dickinson, W. H. H. Murray, Edward S. Morse, William Parsons, H. M. Gallaher, Carl Schurz; of a Reading by George Vandenhoff, and of a Concert.

Respectfully submitted.

JOHN C. DODGE,
ISAAC BRADFORD,
W. W. WELLINGTON,
W. A. BULLARD,
GEORGE F. PIPER,

Board of Trustees.

REPORT

OF THE

TRUSTEES OF THE SANDERS TEMPERANCE FUND.

To the City Council:

The Trustees of the Sanders Temperance Fund respectfully submit herewith their Eleventh Annual Report for year ending Nov. 30, 1875: —

The Fund ($10,000) left as a legacy to the City by will of Charles Sanders remains invested, as heretofore, in notes of the City bearing interest at six per cent, and producing an income thereby of $600, which has all been paid to the Missionary as salary.

In accordance with the requirements of the Ordinance relating thereto, Alonzo Stewart was appointed as Missionary in April last. His Report, accompanying this, gives a statement of the details of his observations and work during the year.

ISAAC BRADFORD,
GEORGE F. PIPER,
JOHN CLARY,
JOHN STONE,
} *Trustees of the Sanders Temperance Fund.*

Cambridge, Dec. 30, 1875.

REPORT

OF THE

SANDERS TEMPERANCE FUND MISSIONARY.

To the Trustees of the Sanders Temperance Fund:

GENTLEMEN, — In accordance with custom and duty I lay before you a Report of my labors as your Missionary for the past eight months. I have experienced the same difficulties as my predecessors in contending with this giant evil, intemperance. The task seems almost hopeless, as the mission is not connected with any benevolent society, and is without a place in which to shelter the unfortunate for a night, or means to send them to their homes or friends, and thus remove them from temptation, and relieve the City of the expense of their future care. But I would, in this connection, express my sincere thanks to the Chief of Police, and the officers under him, for the kind assistance rendered me in the prosecution of my work. I have devoted the most of my time to the work assigned me by the conditions of the "Sanders Fund" bequest, viz. "In reforming old drunkards, and preventing young men from entering the drunkard's road, and preventing as far as possible the use of all intoxicating drinks." In accordance with these conditions I have been at the Police Court at all its sessions but three since my appointment, have taken pledges of total abstinence from ninety-three (93) who had been arrested for intemperance, only four (4) of whom have been returned for the second offence; have rendered assistance in various ways to one hundred and forty (140) brought before the court; have visited many families, whose friends were confined in the House of Correction, to inform them of their whereabouts, visited the House of Correction as often as once a week, distributed nearly four thousand

(4,000) pages of temperance tracts; have induced between fifteen (15) and twenty (20) young men to unite with temperance organizations, advocated the cause of temperance in public and private, as opportunities occurred. The evidences of success in my labors are very unsatisfactory to myself, but hope cheers me on by the thought that my efforts have not been entirely fruitless.

All of which is respectfully submitted.

ALONZO STEWART,

Temperance Missionary.

REPORT

OF THE

MILK INSPECTOR.

To his Honor the Mayor and Aldermen of the City of Cambridge:

GENTLEMEN, — The undersigned most respectfully submits his Third Annual Report for the year ending Nov. 30, 1875.

The milk trade of the City of Cambridge is divided into three classes: first, wholesale dealers selling from their wagons; second, retail dealers selling from stores and shops; third, parties keeping cows and selling to private families in their immediate neighborhood.

Number of wholesale dealers registered . . .	51
" " " now in business . .	47
Whole number of retail dealers registered . .	237
Number of retail dealers now in business . .	234
" persons keeping cows registered . .	68
" cows kept by those registered . .	107
" samples of milk analyzed . . .	3
" " " tested by inspector .	384
Largest amount of added water found . .	27 per cent
Number of cases appealed to Superior Court . .	2

I have visited three hundred and fifteen places throughout the city where milk is publicly sold, and inspected one or more samples in each and every place.

I have also tested several samples of milk at the office, brought there for inspection, and, with few exceptions, the samples tested were found quite free from any adulterations.

The sudden changes in the weather I find materially affect the quality of the milk.

The following extracts from the law may be of interest to the citizens and dealers generally : —

Acts of 1864, Chapter 122.

Section 2. The Inspectors shall keep an office and books for the purpose of recording the names and places of business of all persons engaged in the sale of milk within their limits. They may enter any place where milk is stored or kept for sale, and all carriages used in the conveyance of milk; and whenever they have reason to believe any milk found there is adulterated they shall take specimens thereof and cause the same to be analyzed or otherwise satisfactorily tested, the result of which they shall receive and preserve as evidence, and a certificate of such results sworn to by the analyzer shall be admissible in evidence in all prosecutions under this Act.

Section 4. Whoever neglects to cause his name and place of business to be recorded in the Inspector's books, and his name legibly placed upon all carriages used by him in the conveyance of milk before engaging in the sale thereof, shall forfeit twenty dollars for the first offence, and for a second and each subsequent offence, fifty dollars.

The law of 1872 is as follows : —

An Act to Prevent the Sale or Exchange of Adulterated Milk.

Be it enacted, etc., as follows : —

Section 1. Whoever sells or exchanges, or has in his possession with intent to sell or exchange, or offers for sale or exchange, adulterated milk, or milk to which water or any foreign substance has been added, shall for the first offence be punished by a fine of not less than twenty nor more than one hundred dollars, and for any subsequent offence by a fine not less than fifty nor more than three hundred dollars.

Section 2. Whoever sells or exchanges, or has in his possession with intent to sell or exchange, or offers for sale or exchange as pure milk, any milk from which the cream or any part thereof has been removed, shall be liable to the penalties provided in the preceding section.

SECTION 3. Whoever knowingly sells or exchanges, or has in his possession with intent to sell or exchange, or offers for sale or exchange, adulterated milk, or milk to which water or any foreign substance has been added, shall for the first offence be punished by a fine of not less than fifty nor more than three hundred dollars, and for any subsequent offence by a fine not less than one hundred dollars, and imprisonment in the House of Correction not less than thirty nor more than ninety days.

SECTION 6. This Act shall take effect upon its passage.

Approved, May 4, 1872.

Acts of 1863, Chapter 140.

SECTION 3. It shall be the duty of the Inspector to cause the names and places of business of all persons convicted under the preceding section to be published in two newspapers printed in the town or county where the offence may have been committed.

All persons are respectfully requested to send to my office to be tested, samples of milk purchased by them of the purity of which there is any doubt, and are also requested to report to me any violation of any of the provisions of the above laws.

CITY PROPERTY NOW IN THE INSPECTOR'S OFFICE.

One milk-jar, lactometer, and thermometer in case.

Respectfully submitted.

JOHN CAHILL,

Milk Inspector.

DECEMBER, 1875.

REPORT

OF

SEALER OF WEIGHTS AND MEASURES.

To his Honor the Mayor and Aldermen of the City of Cambridge:

GENTLEMEN, — The undersigned most respectfully submits his Third Annual Report for the year ending Nov. 30, 1875.

During the year I have visited all stores, shops, manufactories, and all places where scales, weights, or measures have been in use, and have tried, proved, adjusted, and sealed all scales, weights, or measures found in said places.

Number of places visited	528
" scales sealed	850
" " adjusted	570
" " condemned	57
" weights sealed	3,880
" " adjusted	79
" " condemned	47
Dry measures sealed	1,093
" adjusted	65
" condemned	21
Liquid measures sealed	1,637
" adjusted	129
" condemned	68
Yard-sticks sealed	80
" adjusted	4
" condemned	2

The following table will show the business places visited during the year: —

Apothecaries	29	Grocers and provisions	43
Bakers	22	Grist mill	1
Bread and cake	3	Hay and grain	9
Book binderies	3	Hay	4
Brush manufactories	2	Hotel	1
Boiler shops	2	Hardware	11
Blank book manufactories	1	Ice yards	2
Brass and iron foundries	10	Ice tools	1
Butchers	7	Junk stores	2
Blacksmiths	5	Laboratory	1
Confectionery	21	Machinists	4
Cement	1	News depots	5
Coal and wood	23	Pork packers	2
Cigars and tobacco	6	Plumbers	6
Clothing	11	Painters	5
Cracker bakeries	2	Paper collar factory	1
Chemical works	1	Stoves	6
City scales	5	Stone wharves	4
Dry goods	27	Soap works	13
Dressmakers and milliners	3	Tanners	4
Fruit	5	Tailors	3
Fish	11	Tinshops	7
Fancy goods	4	Variety	22
Glass factories	1	Oleomargarine factory	1
Groceries	189		

All the public and private scales throughout the City are now in good condition.

The following extracts from the General Statutes and the Acts of the year 1870, relating to weights and measures, may be of interest to the citizens: —

Chapter 218, Approved May 6, 1870.

Section 1. All persons using scales, weights, measures, or milk-cans, for the purpose of selling any goods, wares, merchandise, or other commodities, shall have them adjusted, sealed, and recorded by the Sealer of Weights and Measures in the city or town in which they reside or have their usual place of business, and shall thereafter be responsible for the correctness and exactness of the same: *provided*, however, that they shall have the right to have such scales, weights, measures, and milk-cans

tested and adjusted at the office of the Sealer of Weights and Measures whenever they desire to do so.

SECTION 3. All persons using any scales, weights, measures, or milk-cans, for the purpose of buying or selling any commodity, may have the same tested and sealed by the Sealer of Weights and Measures in the city or town where they reside or have their usual place of business, at his office, whenever they desire to have it done.

General Statutes, Chapter 51.

SECTION 16. Whoever sells by any other weights, measures, scales, beams, or balances than those which have been sealed as before provided shall forfeit a sum not exceeding twenty dollars for each offence; and when by the custom of trade they are provided by the buyer, if he purchases by any other weights, measures, scales, beams, or balances, he shall be subject to a like penalty, to be recovered by an action of tort to the use of the complainant.

General Statutes, Chapter 49.

SECTION 61. The dry measure shall be the sole authorized public standard for measuring all fruits, vegetables, and nuts when the same are sold by measure. Whoever sells such articles by any other than dry measure shall forfeit and pay a sum not exceeding ten dollars for every such offence.

SECTION 62. Chestnuts, walnuts, cranberries, and all other berries, when sold, shall be measured by the strike or level measure, in the same manner as flaxseed and other similar articles are measured.

SCHEDULE OF CITY PROPERTY CONTAINED IN THE SEALER'S OFFICE.

One set avoirdupois weights.
One balance in cabinet.
One set standard dry measures.
" " wine measures.
One brass yard-stick.
One set avoirdupois weights in case.
" dry measures (copper).
" wine measures (copper).

Standard yard-stick (brass).
" " (wood).
" pair try-scales in case.
Forty fifty-pound weights (iron).
One drill stock and drills.
" hammer.
" mallet.
" vise.
" wrench.
" knife.
Three screw-drivers.
One pair nippers.
" cut nippers.
One brand, letter C.
" double letter C.
Three stamps, letter C.
Three cases.
Four files.
One punch.
Half bushel flaxseed.
Small quantity of shot and lead.
One charcoal basket measure in case.

Respectfully submitted.

JOHN CAHILL,

Sealer of Weights and Measures.

DECEMBER, 1875.

REPORT

OF THE

CAMBRIDGE WATER BOARD.

To the City Council of the City of Cambridge:

In accordance with the requirements of the City Ordinance, the Cambridge Water Board herewith submits to you its Eleventh Annual Report.

Cost of the Works.

Net cost of the Water Works Nov. 30, 1874, as per last year's report	$1,399,396 53
Expended for extension account during the year ending Nov. 30, 1875	153,170 67
Making total cost Nov. 30, 1875 . . .	$1,552,567 20

Previous to June 30, 1875, the sum of $180,100 was taken from the Sinking Fund and appropriated to the payment of a like amount of the City Water Debt, and these two accounts will now stand as follows: —

Amount of Water Debt representing the cost of the Water Works as above . .		$1,552,567 20
Less amount of Water Debt paid . . .		180,100 00
Leaving amount of Water Debt unpaid . .		$1,372,467 20
Amount of Sinking Fund .	$314,429 21	
Less payment on Water Debt .	180,100 00	
		$134,329 21

This balance of Sinking Fund remaining, deducted from the unpaid Water Debt, leaves the net cost of the Water Works,	$1,238,137 89

Comparative Receipts.

Receipts for Water Rates for the year ending Nov. 30, 1874	$153,634 27
Receipts for the year ending Nov. 30, 1875 .	138,880 37
Showing decrease for the year 1875 . .	$14,753 90

This is the first year in the history of the Water Works when the receipts of the current year have not exceeded those of the previous year. It is accounted for as follows: —

1. We have put in a less number of new supplies than usual the past year.

2. Many houses are vacant and manufacturers are doing less business, and, consequently, use less water.

3. And, principally, because the water rates due from the City have not been passed to our credit.

There is due the Water Works from the City, on the basis on which our water bills have been made out and paid heretofore, as follows: —

Amount due on supply account	$2,681 19
" Water Rates for 1873 . . .	3,929 04
" " " 1874 . . .	6,804 60
" " " 1875 . . .	27,915 90
Total	$41,330 73

Memo. — We are informed that since November 30, the close of our year, the City Council has amended the Ordinance on Water Rates, making special rates for water furnished for watering streets, and for hydrants. If the above-named bills are settled on the new rates, the above amount will be cut down to $19,813.96, being a reduction of $21,516.77.

Statement showing the entire transactions in brief on account of the Water Department for the year ending Nov. 30, 1875.

Received.

Amount of appropriation for extension . .	$160,000 00
From water rates	138,880 37
" supply account, and shutting off and letting on water	8,439 21
From rent of house	150 00
" interest on Sinking Fund to June 30 .	16,955 21
" " current account . . .	2,568 99
" accrued interest on bonds sold . .	1,448 83
	$328,442 61

Expended.

For extension account	$153,170 67
" care and repairs	28,651 77
" supply account	12,498 59
" interest on Water Debt to June 30, 1875 .	85,404 00
" unexpended appropriation	6,829 33
Balance showing gain in 1875	41,888 25
	$328,442 61

The following table will show the comparative rainfall and height of water in the pond during the years 1874 and 1875 : —

	Rainfall, 1874, Inches.	Rainfall, 1875, Inches.	Below high-water mark, 1874, Inches.	Below high-water mark, 1875, F't & inches.
December, 1874	4.64	1.50	36.62	5 feet 9
January, 1875	3.28	3.22	21.62	6 " 6
February, "	4.42	3.54	24.37	7 " 4⅝
March, "	1.49	8.10	29.	6 " 7⅛
April, "	6.39	4.73	27.25	5 " 7
May, "	3.50	3.08	20.88	5 " 5
June, "	3.87	6.60	23.50	4 " 2⅜
July, "	2.54	2.88	33.75	5 " 8¾
August, "	6.82	5.66	35.37	6 " 0⅝
September, "	1.52	3.46	45 38	6 " 4⅜
October, "	1.07	3.83	54.	6 "
November, "	2.33	4.86	59.62	5 " 9½
Total	41.87	51.46		

It will be seen by this table that there were 9.59 inches of rainfall in 1875 more than in 1874, and the water in the pond remained within one half inch at the close of the year where it was in the beginning. By reference to the Superintendent's Report it will be seen that we pumped in 1875, 992,247,000 gallons, while in 1874 we pumped 839,183,100, showing excess in 1875 over 1874 to be 153,063,900 gallons. This excess can nearly all be accounted for by the extraordinary demands made on us last winter, and has been supplied by the increased rainfall, and also by considerable water which has found its way into the pond from Wellington Brook and Little Pond, through the new conduit and otherwise.

The following statement will show the cost of the Water Works and their progress, financially, up to the present time : —

Year.	Cost of Works.	Water Rates.	Sinking Fund.
1865	$294,888 91	$32,367 19	
1866	383,074 65	40,073 27	$6,367 77
1867	571,699 71	52,733 62	12,568 12
1868	732,196 09	63,747 42	24,100 86
1869	831,509 60	76,149 30	27,726 44
1870	888,416 06	92,606 95	59,673 62
1871	945,146 45	111,782 65	89,811 12
1872	1,030,384 86	127,201 30	131,072 67
1873	1,249,415 07	146,117 32	189,410 16
1874	1,399,396 53	153,634 27	256,203 18
1875	1,552,567 20	139,080 37	314,429 21

The following table will show the progress of the Water Works in reference to the Water Supply : —

Year.	No. Supplies.	Pounds coal used.	Gallons water pumped.	Gallons. Daily average.	Gallons av'ge to Supply.
1865	2,191	559,100	351,176,396	962,127	439
1866	2,362	635,250	405,639,034	1,111,339	471
1867	2,610	731,950	454,125,872	1,244,180	476
1868	3,117	769,608	632,456,848	1,732,759	556
1869	3,573	796,180	588,763,182	1,613,050	451
1870	4,191	1,112,850	635,052,196	1,739,869	415
1871	4,894	1,402,390	637,912,150	1,747,704	358
1872	5,325	1,522,650	593,492,156	1,626,006	305
1873	5,819	1,535,400	775,583,000	2,124,884	365
1874	6,236	1,737,864	839,183,100	2,299,146	369
1875	6,570	1,758,300	992,247,000	2,718,484	414

It will be seen by this table that the daily average amount of water we have furnished each supply has been 419 gallons through eleven years, while for the past five years it has been but 362 gallons; a decided gain in this direction.

In our last Report we said we should ask for an appropriation to enable us to do the following work: —

"*First.* — To connect Fresh, Little, and Spy Ponds by a suitable conduit, to make available the water supplied from these sources.

"*Second.* — To clean out the borders of Fresh Pond near our pumping works where the bottom of the pond becomes exposed at low water.

"*Third.* — To lay some more main pipes, as hereinbefore more fully set forth.

"*Fourth.* — To provide suitable buildings to accommodate our engineers and firemen, whom we are obliged to employ about the Works all the time, and who should be on the ground, where their services can be commanded at all times night and day."

Upon examination it was found that our right to take the waters of Wellington Brook and Little and Spy Ponds was only by implication, and not by a clear and undoubted grant from the Legislature. This being so, it was deemed best before any work was done to connect these sources of supply that application should be made to the Legislature for the express right to do so. Application was therefore made in due form, and we were summoned several times to appear before the committee having it in charge, and show why we wanted the water. Our necessities in the case were made so plain that, although we met some opposition from Belmont and Arlington parties, and some from the ice interests, yet, after a full and exhaustive examination of the whole matter, the Legislature granted us the following Act under which we proceeded with the work: —

[Chap. 165.]

AN ACT

To Provide a Further Supply of Water for the City of Cambridge.

Be it enacted, etc., as follows:

Section 1. The City of Cambridge, for the purpose of supplying said city and the inhabitants thereof with pure water for the extinguishment of fires, for domestic and other purposes, may take, hold, and convey into and through said city the waters of Spy Pond, in the town of Arlington, and of Little Pond, in the town of Belmont, and of Wellington Brook, in said Belmont, and the waters that flow into said ponds or brook, or either of them; may connect the same or any part thereof with Fresh Pond, and may take and hold by purchase or otherwise such land on and around the margin of said ponds, including Fresh Pond, not exceeding five rods in width, as may be necessary for the preservation and purity of said waters, and may also take and hold in like manner such lands as may be necessary for erecting and maintaining dams and reservoirs, and for laying and maintaining conduits, pipes, drains, and other works for collecting, conducting, and distributing said waters into and through said city either by the way of Fresh Pond or otherwise: *provided, however*, that said city shall not hereby acquire any right to take ice from either of said ponds, or to take land upon which any building or machinery is now erected, or which is used in connection with such building or machinery for the purpose of storing ice or for convenience in cutting, storing, and moving ice, without the consent of the owner of said land and buildings or machinery, and shall not obstruct, by ditches, buildings, or other structures, the rights of such owners in the cutting, storing, and moving of ice, except so far as the same shall result from the raising or lowering of the surface of the water of said ponds, or either of them, and except so far as is necessary for the preservation of the purity of the waters of said ponds; but nothing in this Act shall be construed to give additional rights to said city to lower the surface of said Fresh Pond below the point now authorized by law.

Sect. 2. Said city, by its mayor, shall, within sixty days after taking any lands for the purposes of this Act, file in the registry of deeds of the county and district in which such land lies a description of the land so taken as certain as is required in a common conveyance of land.

Sect. 3. Said city, for the purposes aforesaid, may build aqueducts and maintain the same by any works suitable therefor; may erect and maintain dams; may make and maintain suitable reservoirs; may make and establish such public fountains and hydrants as may from time to time be deemed proper, and may change or discontinue the same; may regulate the use of water, and establish the price or rents to be paid therefor, and collect the same by process of law. Said city may, also, for the purposes aforesaid, carry its pipes and drains over or under any watercourse, street, railroad, highway, or other way, in such manner as not to obstruct the

same; and may enter upon and dig up such road, street, or way, for the purpose of laying down, maintaining, or repairing pipes or drains, and may do any other things necessary and proper in executing the purposes of this Act.

SECT. 4. If said city enters upon and digs up, for the purposes aforesaid, any road, street, or way which is outside of the limits of said city, it shall do so under the direction of the selectmen of the town in which said road, street, or way is located, and shall restore said road, street, or way to as good order and condition as it was in before such digging was commenced; and the work shall be done in such manner, and with such care, as not to render any road, street, or way in which such pipes are laid unsafe, or unnecessarily inconvenient to the public travel thereon. Said city shall, at all times, indemnify and save harmless any such town which is liable to keep in repair any road, street, or way aforesaid, against all damages which may be recovered against it, and shall reimburse to it all expense which it shall reasonably incur by reason of any defect or want of repair in such road, street, or way caused by the maintenance, repairing, or replacing of said pipes, or by reason of any injury to persons or property caused by any defect or want of repair in any such pipes: *provided*, that said city has notice of any claim or suit for such damage or injury, and an opportunity to assume the defence thereof.

SECT. 5. Said city shall be liable to pay all damages sustained by any persons or corporations by the taking of, or injury to, any of their land, water, water-rights, rights of way or property, or by the constructing of any aqueduct, reservoir, or other works for the purposes aforesaid. If any person or corporation sustaining damages as aforesaid cannot agree with said city upon the amount of said damages, he may, within three years from such taking or construction, have them assessed in the same manner as is provided by law with respect to land taken for highways.

SECT. 6. All the rights, powers, and authority given to the city of Cambridge by this Act shall be exercised by said city, subject to all duties, liabilities, and restrictions herein contained in such manner and by such agents, officers, and servants, as the city council shall from time to time ordain, direct, and appoint.

SECT. 7. Whoever wantonly or maliciously diverts the water, or any part thereof taken or held by said city pursuant to the provisions of this act, or corrupts the same, or renders it impure, or destroys or injures any dam, aqueduct, pipe, conduit, hydrant, machinery or other works or property held, owned or used by said city under the authority and for the purposes of this Act, shall forfeit and pay to said city three times the amount of the damages assessed therefor, to be recovered in an action of tort; and on conviction of either of the wanton or malicious acts aforesaid, may also be punished by fine not exceeding three hundred dollars, or by imprisonment not exceeding one year in the House of Correction in said county of Middlesex.

SECT. 8. This Act shall take effect upon its passage. [*Approved May* 1, 1875.]

Account of Work done.

First. — During the year, a conduit of suitable size has been constructed connecting Fresh Pond with Wellington Brook and Little Pond, giving us direct connection with them, and control of the water furnished from these sources, and indirectly through Little Pond we control the water flowing from Spy Pond. This gives us a large amount of water that we can rely upon to reinforce Fresh Pond when it is necessary, and at the same time increases our storage capacity by the area of about one hundred and fifty-six acres. This last item is of great importance to us where our capacity to catch and retain the water when it comes enters so largely into the value of our water supply.

Second. — The work of "cleaning out the borders of Fresh Pond near our Engine-House" was one requiring a large outlay; and while the Water Board had no doubt that it ought to be done, it was thought best that the City Council should be invited to visit the pond, and their views ascertained before the work was commenced. This was done, and the feeling seemed unanimous on their part that it should be done at the earliest moment. This work was therefore commenced in September, and has been continued, when the weather would permit, up to this time. A very large part of the excavating has been done already, and should the season prove favorable, it is hoped that it will all be completed before the work is stopped. The paving of the banks cannot be finished this season, as it is necessary that the upper part of the banks should have time to settle, and thus this work cannot be completed until spring.

Third. — During the year the following main pipes have been laid in continuance of the work reported last year. A twenty-inch through Green, Sidney, Front, and Osborn Streets to Main Street at Portland. A ten and twelve inch pipe on Harvard Street. The laying of these pipes has greatly reinforced the supply of water in those portions of the city for ordinary uses, but the principal advantage has been the increased facilities for furnishing water for the use of the Fire Department, the benefit of which has already been experienced.

Fourth. — At the date of our last Report our old pump was in New York, to be thoroughly overhauled. Since then it has been returned and set up in its place in the new engine-house. Such alterations were made as were necessary to make it conform in appearance to our new pump, and such repairs were made as to make it practically as good as new. We have now two pumps in perfect condition, each of them of the capacity of 5,000,000 gallons daily delivery, and they are supplied with steam boilers, feed-pumps, and all other needed appliances to ensure us a complete duplicate pumping power. We do not see that any further expense in this direction will be required for several years to come, except the current ordinary repairs, which, from our past experience, will be very small.

Nothing has been done in regard to providing suitable buildings for our employees at the engine-house, as other things which seemed more important have claimed our attention during the whole year.

During the past year a thorough examination and inspection of the Water Works have been made, all the fixtures in the buildings were examined, and where needed repairs were made. A full report of the particulars connected therewith will be made to the Water Board by a committee who have the matter in charge.

The result of this examination has only confirmed what was already known: that is, that a very large amount of water is lost all the time by wastage, and the question comes up again and again: Can nothing be done to stop it? In reply, we say, Yes, it can be done, but the expense of doing it at present makes it impracticable. We find that in countries where water is very scarce, and is furnished at great cost, this matter has received practical and successful attention, and, in order that it may be brought before you fairly, we herewith give you extracts from the Report of Geo. F. Deacon, Esq., Water Engineer for the City of Liverpool, England, where the matter of wastage of water has been treated with more success than anywhere else that we know of. We are indebted to the Report of the Cochituate Water Board for 1874 for this paper, and we commend it to your careful consideration.

It will be noted that there "the cost of water, say ninepence

a thousand gallons," is equal to $187.50 per million gallons; while with us, if we make up the cost in the usual way, by taking the cost of the coal we use, and adding the ordinary expense of care and repair, we shall find the cost of our water for 1875 to be less than $12 per million gallons. It will thus be readily seen that what might be a good and economical system where the water costs $187.50 per million gallons, might be an expensive and useless system where the water costs only $12 per million gallons. The principal advantage of presenting this experience and success of others in treating the subject of wastage of water, is to show you that it can be done; and it is worth something to know what we can do if the necessity is ever laid upon us, or when it will pay.

While we present the experience at Liverpool as the only real successful result attained, we are not without hope that some other practical way of reaching the subject may yet be found. In a former Report made to this Board we find these words, which seem to present this matter in a concise way: "A practicable and efficient remedy for this waste has not been discovered and applied, so far as we know; a meter set at each supply would secure pay for the water we furnished, and probably stop nearly all the waste, as people are not likely to waste what they pay for directly; but until a cheaper meter than is now on the market is furnished, this remedy is too expensive, as it costs more than the disease." Until something of this kind is presented, we know of no better way than to continue in our present and long practised course of energetic, persistent efforts in the management of the Water Works in order to attain the best possible practical results.

General Remarks.

The last winter was one of unprecedented severity in reference to water pipes, both in the streets and on the premises of water-takers. In some streets the main pipes froze solid, while hundreds of our customers were deprived of water by the freezing of their service pipes. Every means known to us was used to make this difficulty as light as possible, but we could not hold

our own with King Frost after he got well started. The effect was that those who were not frozen up, fearing they would be, commenced a general system of letting their faucets run all night to keep their pipes from freezing. This remedy generally proved effectual, but it caused an unprecedented demand on us for water to supply this great waste. Although we are now drawing our water from the pond through the new pipe, which is more than four feet lower than the one used the year before, yet so near did we come to exhausting the power of the pipe to supply us by the falling of the water in the pond, that the Board authorized preparations to be made to pump into the pipe as a last resort. Providentially, the heavy rains early in the spring saved us from using the last resort. This experience, however, fully demonstrated that our new conduit just completed and reaching other sources of supply was not built a day too soon.

Before the work of cleaning out the pond was commenced, negotiations were made with the "Tudor heirs," in regard to a long, low, unsightly piece of ground reaching from Concord Turnpipe to our engine-house lot, and lying between the railroad and the new street running from Concord Turnpike to the engine-house. As a result, the "Tudor heirs" have agreed to convey the same to the City without charge, but upon the condition that the same should be graded up and kept as a common, free of all buildings, thus securing a free and unobstructed view of the pond from Concord Turnpike to the new depot near our engine-house. As this was the most favorable place of any whereon to deposit the material taken out of the pond, a double advantage has been thus attained.

Enough has already been done to show that when the work is completed the former unsightly and filthy slough will be transformed into a cleanly and beautiful place. Indeed, it will without doubt become one of the most attractive places of resort in our City, to which any of our citizens can take their visiting friends, and show them with commendable pride where our City gets her water, which will be in great contrast with our former experience, when it was necessary to apologize and excuse as best we could the surroundings of our Water Works. So far

as we have heard any expression from our citizens or others in regard to this work, it has been one of universal commendation, and the only surprise is that we have not done the work before. It should be remarked that the new conduit connecting the ponds, and the work of cleaning out the pond, have been done under the supervision of our City Engineer.

In comparing our Water Works as they are at present with what they were eleven years ago, when the City bought them, we see great and important changes have taken place. Indeed, they are to-day practically new Water Works: scarcely a vestige of the original works remain; nearly everything has been rebuilt or superseded by something adapted to our present or prospective wants. Among these changes may be noted the following: —

The original pumps have been outgrown, and they are succeeded by new and larger ones.

The old engine-house has been left for a new one, made large and commodious enough to supply our wants in that direction to the extent of our present water supply.

The old pipe into the pond has been taken out, and a new one put down of larger size and more than four feet deeper in the pond.

The old pumping main has been taken up, and two new ones of large size and in a better location have been put down.

The old reservoir has been rebuilt almost completely, and a new one built alongside of it, thus duplicating our reservoirs; and in connection with them we have built a stand-pipe, to give increased head to our water, and supply the high grounds of our city.

New distributing mains have been laid from the reservoir to all parts of the City, of large size, for distributing the water, and nearly all the old pipes have been replaced by new ones in the streets, while to a great extent the supply pipes have been renewed by putting in other and better ones.

During the past year the new conduit has been laid, connecting us with other sources of our water supply, and the work of cleaning out objectionable material from our pond has been well commenced.

As we now look over the works they seem almost completed, so far as our present sources of water supply are concerned, and but little remains to do except to finish up the work already begun.

We enumerate the things that as it seems to us ought to be done in carrying out this work to completion, and for which we shall ask from you an appropriation at the proper time.

First. — Finish up the work, already far advanced, of cleaning out that part of the pond near the engine-house.

Second. — Clean out that part of the pond known as Black's Nook, where our new conduit enters Fresh Pond.

Third. — Build a conduit to connect Spy with Little Pond at its outlet, with suitable dam and gate-houses, so that we shall have full control of the water, and also, by so doing, improve and take possession of all the rights granted to us by the Legislature.

Fourth. — Build a suitable cottage for our engineer, using the material of our old engine-house for this purpose, which, with the lumber we shall have about the pond when the clearing up is done, will furnish a large part of what will be required.

Undoubtedly other things will be found necessary in the future, to improve the purity of our water and increase our resources, but at present the above enumerated things to be done are all that our immediate wants require.

For the details of what has been done in the ordinary prosecution of the work connected with the Water Works, and for the present condition of the property, and accounts connected therewith, we would refer you to the Reports of the Registrar and Superintendent herewith submitted.

C. W. KINGSLEY.
H. L. EUSTIS.
J. WARREN MERRILL.
SAMUEL SLOCOMB.
GEORGE P. CARTER.
GEORGE F. PIPER.

EXTRACTS

FROM THE

REPORTS OF GEORGE F. DEACON, Esq.,

BOROUGH AND WATER ENGINEER, LIVERPOOL, ENGLAND.

THE engineer has the honor to submit the following statement of the measures which have been adopted for the prevention of waste and the restoration of constant service in fourteen districts selected for experimental purposes: —

The districts in question extend from Byrom Street and Scotland Road to Hatton Garden, Key Street, and Old Hall Street, and from Dale Street to Burlington Street. They comprise 5,403 houses, and a population of 31,000 persons.

The first step taken in each district was to attach a meter to the main pipe, in order to measure the quantity of water used; readings of the indexes were and are still taken at 6 A. M. and 6 P. M. daily, occasionally during the night, and in some cases hourly. These readings form a useful and interesting record of the varying demands upon the water, the extent of waste, and the influence of operations for its prevention. After connecting a meter to a district, the conditions of supply were left unchanged until a fair average had been obtained of the consumption under the intermittent system; constant service was then introduced and continued without interruption for some time; these preliminary facts having been placed on record, measures for the prevention of waste were commenced, and the effect of each operation upon the consumption noted. Waste Water Inspectors were sent to examine carefully and describe in detail all the pipes and fittings in every house, and to

ascertain the number of inhabitants. Night Inspectors were employed to examine for external indications of waste, and by sounding stop-cocks to discover defects in pipes; the defects reported were vigorously followed up, and notices served where repairs devolving upon the owners or occupiers were required. In several of the streets special examinations of the sewers were made, and contributed materially to the detection of leakages.

The first efforts to diminish waste by external plumbing work were made in connection with the fixing of stand-pipes in courts, where the taps were inside of the houses: a measure participated in by the Health Committee on sanitary grounds. The separate taps were disconnected, the old and generally light and defective pipes supplying the taps were taken up, and new piping was laid from the mains. In districts such as Henry Edward Street and Charters Street, where courts are numerous, the action produced material results; but it was found that branch pipes to trough closets, and to front houses adjoining the courts, which had not been interfered with, were constantly bursting, and it became necessary, in order to make the work in the courts effectual, to renew all those branches so as to clear away as much as possible of the old piping. This course has since been pursued systematically wherever stand-pipes have been laid. In districts where courts are comparatively few, the alterations in connection with the erection of stand-pipes had very little influence in reducing the consumption.

During the progress of these works frequent leakages were discovered in the street pipes, both of lead and iron, which throughout the districts were known to be for the most part old and shallow; it was obviously important to place the corporation pipes in a sound condition, while calling upon owners and occupiers to repair defects upon private property; an examination was therefore made of all the lead communication pipes, and where necessary they have been taken up, and strong, new pipes laid at a proper depth from the surface, while in several streets the iron pipes have been entirely renewed; at the same time stop-cocks have been attached to each

lead pipe, so that the supply can be controlled from the street, and the water at once shut off in the event of a breakage with very little inconvenience.

The renewal of street pipes has merely been the concentration at a particular time, and the systematic performance of works which must, in any event, have been carried out in a short time.

The following statement shows the length of piping taken up and laid in connection with the work already described: —

	Old Pipe taken up. Feet.	New Pipe laid. Feet.
In connection with stand-pipes in courts within the 14 districts . . .	39,267	49,384
In connection with stand-pipes in courts outside the 14 districts . . .	10,851	15,041
In streets, relaying service-pipes . .	14,934	16,156
Total lead pipe	65,052	80,581

The first item includes piping to trough closets and branches to front houses, referred to above. The defects in the pipes taken up were numerous; their character, and the general condition of the piping, may be judged from the specimens which have been preserved, and may be seen at the engineer's office.*

NIGHT INSPECTIONS.

Shortly after the fixing of the first district meter, a system of night inspections was commenced, and proved to be so productive in the discovery of leakages that it has been continued until the present time. There are two inspectors engaged upon the night duty, and they report an average of 15 cases per night. By means of the stop-cocks they are enabled to hear even a slight trickling of water from a pipe or tap at a considerable distance. One inspector and two laborers are fully employed in following up and tracing during the day the cases thus brought under notice. So far, the Night Inspectors have been confined entirely to the test districts. The following is

* Full particulars of the cost of these operations were given in the engineer's report of 21st Oct. 1873, on the expenditure in connection with the erection of stand-pipes, and the prevention of waste water.

an analysis of the reports received from them up to the 31st ultimo. The nature of the defects is given as ascertained by the subsequent day examinations: —

Cocks	345
Ball cocks	103
Water-closets	223
Pipes	465
Trough water-closets	56
Taps left open	85
Stop-cocks	65
Stand-pipes	100
Hydrants, ferrules, plugs, etc.	61
Meters	4
Total	1,507

SEWER EXAMINATIONS.

In four of the districts where considerable waste from the street pipes was believed to take place, useful results have been obtained by night examinations of the sewers. When the ventilation and cleansing of the sewers has been completed, systematic and periodical examinations may be made, and there is no doubt such a course will lead to the discovery of a great deal of waste which now takes place unperceived.

HOUSE-TO-HOUSE INSPECTION.

Until recently two inspectors have been employed, with the occasional assistance of others, in house-to-house visits for the examination of fittings in these districts. Returns have been prepared which show the number and character of the various kinds of taps and fittings in every house. Where slight defects have been met with, the inspectors have themselves effected the necessary repairs; but where the defects have been of a more serious description, the usual notices have been served on the persons responsible.

A source of waste deserving of special mention is an arrangement which is, unfortunately, very common in these districts,

of flushing water-closets by means of a simple tap, and a pipe laid direct from the main or from a supply cistern; scarcely less objectionable are cisterns containing only single valves. The taps or valves are frequently left open, and large volumes of water flow to waste. Although the tenants are usually careful to close the taps or valves when the inspectors are near, no fewer than 88 such taps have been found open. The course adopted has been to cut off the supply, and serve a notice upon the landlord or tenant to provide a double-valve cistern of approved pattern.

The following table is a summary of the defects discovered by the Waste Water Inspectors, in each of the districts, from the time of fixing the meters until the end of October: —

Title of District.	Notices issued for Defects.					Repairs effected by Inspectors.					
	Cocks.	Ball Cocks.	Water-Closets.	Pipes.	Total.	Cocks.	Ball Cocks.	Water-Closets.	Pipes.	Total.	Total. Noticed and repaired.
Henry Edward Street,	31	5	9	118	163	2	. .	5	. .	7	170
Charters Street . . .	55	12	25	95	187	8	3	. .	. .	11	198
Hatton Garden . . .	72	30	91	131	324	30	20	7	3	60	384
Bispham Street . . .	26	. .	6	66	98	6	2	1	2	11	109
Cockspur Street . . .	47	30	64	126	267	45	10	11	5	71	338
Gascoyne Street . . .	82	8	30	63	183	9	4	5	1	19	202
Plumbe Street	75	19	81	106	281	32	5	7	. .	44	325
Leeds Street	25	3	16	41	85	6	. .	1	. .	7	92
Banastre Street . . .	33	7	24	58	122	10	2	5	1	18	140
Midghall Street . . .	33	4	30	46	103	21	1	1	. .	23	136
Burlington Street . .	96	11	101	189	397	37	4	3	. .	44	441
St. Paul's Square . .	43	20	12	30	105	4	. .	2	. .	6	111
Harrison Street . . .	89	21	61	117	288	33	10	11	12	66	354
Paul Street	16	. .	4	49	69	6	. .	. .	2	8	77
Total	713	5	555	1,232	2,665	253	58	55	28	394	3,076

HOUSE METERS.

In order to ascertain the consumption under various circumstances, special meters have been attached to houses of different

classes, and the results have been tabulated. The following instances will illustrate the value of the proceeding : —

A meter was fixed at a house in Great Crosshall Street, assessed at £25. The consumption was found to be at the rate of 46 gallons per head per day. An inspection of the fittings was made, and all appeared to be satisfactory, but a closer examination resulted in the discovery that the valve of the water-closet cistern (one of the old form) was out of order, and that water was flowing almost noiselessly down the overflow pipe into the drain. The leak was stopped, a new cistern obtained, and the consumption reduced to 7½ gallons per head per day.

In Johnson Street, at a lodging-house assessed at £10, the consumption was found to be very variable, ranging from 70 to 7 gallons per head per day. This variation and excess were attributed to the fact that the water-closet was supplied from a common tap, although it was never found to be actually open. The landlord was requested to erect a proper cistern, did so, and the consumption at once became steady at a rate of about 12 gallons per head per day.

OFFICE SUPPLIES.

In connection with this subject reference may be made to meters recently attached to three blocks of offices, outside of the test district, viz. the Queen's Insurance Buildings, Walmer Buildings, and Brown's Buildings.

The first readings of the meters showed that water was being used at the following rate : —

Queen's Insurance Buildings, about 80 gallons per head per day. Walmer Buildings, about 23 gallons per head per day. Brown's Buildings, about 32 gallons per head per day.

The undue consumption appears to arise chiefly from the urinals and water-closets. On examination the fittings were found to be generally in good order, but of a very wasteful character.

The presence of the inspectors exercised a wholesome influence, and the consumption has been considerably reduced, but

continues to be far more than it ought to be. The average extending over 41 days has been, —

In Queen's Insurance Building,	21½ per head per day.
In Walmer Buildings,	13 " " " "
In Brown's Buildings,	20½ " " " "

It must be remembered that most of the persons included in this calculation are only day tenants, and consume water at their residences in addition to what is used in their offices.

RESULTS OBTAINED IN TEST DISTRICTS.

Having given an outline of the measures adopted for the prevention of waste, it now remains to show their effect on the consumption of water. The following statement gives : —

1st. The quantity used per head, per day, under the old intermitted system of eight to ten hours' daily supply.

2d. The quantity used when the districts were first placed on constant service.

3d. The present consumption with constant service.

The figures are averages of several days.

No. District.	Population.	Former intermittent supply.	Former constant supply.	Present constant supply. Average for week ending Nov. 17.
1. Henry Edward Street.	2,134	18	35	6.6
2. Charters Street	2,285	14½	24	13.66
3. Hatton Garden	2,574	23	40	19.19
4. Bispham Street	1,540	11⅛	19	13.37
5. Cockspur Street . . .	967	22¼	38¼	14.39
6. Gascoyne Street . . .	1,534	18½	33	11.46
7. Plumbe Street	2,570	31	55	17.28
8. Leeds Street	827	17¼	45	13.51
9. Banastre Street	1,824	14½	26	10.27
10. Midghall Street	1,826	20¼	29	10.77
11. Burlington Street . . .	5,798	18½	28	12.85
12. St. Paul's Square . . .	899	24¼	37	17.54
13. Harrison Street	3,399	18½	33	12.77
14. Paul Street	838	24	41	10.74
Average	. . . . .	19.59	33.55	13.32

The average saving in the districts, as they at present stand, is, therefore,

Gallons per head per day.

From former intermittent service 6.27
= 194,407 gals. per day, and 71,000,000 gals. per annum.

From former constant service 20.23*
= 627,251 gals. per day, and 229,000,000 gals. per annum.

CONDITION OF THE STREET PIPES.

By closing the stop-cocks on the lead service-pipes, and preventing all use of water in the district, it is evident that any water passing through the meter must be flowing to waste under the streets. This test has been applied in twelve of the districts, with the results stated below :—

District.	Date.	Stop-cocks shut and Taps tied. Lowest reading rate per hour, in gallons.	Rate per head per day.
Henry Edward Street	3d February . .	180	2.0
" "	25th April . . .	80	.9
Charters Street	13th February .	288	2.7
" "	28th October .	486	5.0
Hatton Garden	2d April . . .	1,140	12.5
" "	29th May . . .	750	7.0
" "	7th November .	411	3.83
Bispham Street	. . . . .	22	0.34
Cockspur Street, reduced district . .	. . . . .	Meter stopped.	All tight.
Gascoyne Street	17th June . . .	240	3.75
" "	28th October	Experiments repeated, but interrupted, and results not satisfactory.	
Plumbe Street	14th October .	405	3.8
Leeds Street	16th April . . .	146	4.35
" "	14th October .	55	1.6
Banastre Street	2d July	96	1.26
St. Paul's Square	11th June . . .	340	9.0
" " half district	28th October .	48	2.3
Harrison Street	27th August . .	360	2.5
Paul Street	17th June . . .	42	1.2

* The value at 9*d.* a thousand gals. of water, saved between former intermittent and present constant service, is £2,662 per annum, and between former constant service and present constant service, £8,587 per annum.

NIGHT READINGS.

Readings of the meters are taken by the night inspectors in the districts where they are engaged, and give excellent indications of the extent of waste by showing what quantity of water is being used at a time when cisterns ought to be full and the inhabitants at rest. Subjoined is a statement of readings at various dates: —

Water passing through the District Meters between the hours of 1 *and* 4 *o'clock*, A. M.

District.	Former Night Readings.		Lowest Night Readings.		Latest Night Readings. (Special.)	
	Date.	Rate per head per day in gallons.	Date.	Rate per head per day in gallons.	Date.	Rate per head per day in gallons.
1. Henry Edward St.	February	23.0	July .	0.75	Oct. 27	2.7
2. Charters Street . .	"	18.0	. . . .	. . .	" 25	8.6
3. Hatton Garden . .	April 3	28.0	July 5	11.0	" 29	10.0
4. Bispham Street . .	May 16	17.2	" 26	4.5	" 27	6.7
5. Cockspur Street .	June 2	23.7	Aug. 25	4.0	" 23	7.1
6. Gascoyne Street .	" 14	21.7	July 8	3.0	Nov. 25	7.5
7. Plumbe Street . .	May 13	20.0	Oct. 22	10.3	" 20	7.0
8. Leeds Street . . .	June 27	11.6	Aug. 1	3.4	Oct. 28	5.2
9. Banastre Street . .	" 17	10.5	July 4	3.1	" 27	5.2
10. Midghall Street . .	July 7	4.0	Oct. 16	4.7	Nov. 26	2.8
11. Burlington Street .	" 16	18.2	" 10	5.96	Oct. 10	5.9
12. St. Paul's Square .	June 20	18.7	Aug. 15	11.0	Nov. 19	10.7
13. Harrison Street . .	" 18	14.5	Sept. 11	3.3	" 25	5.8
14. Paul Street	May 21	17.1	" 10	2.9	Oct. 28	3.7

The "rate per head per day" shows what the consumption would be in twenty-four hours, assuming it to continue at the same rate as when the observations were made.

PRINCIPAL SOURCES OF WASTE.

The several operations described have afforded valuable evidence of the causes of waste, and the most effectual means of

preventing it. From the daily records which have been kept of the consumption, the results obtained under various conditions and circumstances can be compared, and any increase or decrease in the quantity used during the day or night may be immediately seen. It has been found that the leakages from street pipes bear only a small proportion to the total waste. Although many of the distributing mains are very old, worn, and corroded, and break at the least disturbance, the number of actual defects discovered in them has been few.

The chief sources of waste have proved to be private pipes and fittings. Nearly all the private piping hitherto examined has been found too light for the ordinary pressure, and often in a very bad condition. Unskilful attempts have been made to repair defects, while joints of imperfect and unsound character, cisterns and taps of faulty construction, and water-closets without proper regulating apparatus, have been very general. After the alterations that have been made in compliance with waste-water notices, there are still in these 14 districts 852 water-closets, and about 2,000 taps which are contrary to the present regulations. There are 275 water-closets supplied by common taps, 239 water-closets supplied by single valves, and 338 by old regulating cisterns. The corporation have at present no power to order the removal of such objectionable fittings except when they are seen to be actually wasting water. In such cases care is taken that the regulations are strictly complied with.

By vigilant inspection a great deal has been done in this direction, and it is mainly to these efforts that the reduction in consumption is due. In the districts where the greatest number of alterations in private pipes and fittings have been made, the minimum consumption has been reached. Henry Edward Street district has been more thoroughly dealt with than any others. 219 taps have been taken out of the cellars of courts and adjoining front houses in favor of self-closing stand-pipes. The result is that the consumption is very low and very steady. For the past three months the average daily quantity used has been at the rate of 8.47 gallons per head, and for the last month the average consumption has been 6¾ gallons per head

per day. As a contrast to Henry Edward Street, the district known as Plumbe Street shows the increased difficulty of overcoming waste where the same sweeping changes cannot be made. The courts being much fewer, the proportion of renewals effected by the corporation men on private property has been correspondingly smaller. The number of objectionable water-closets here is 139.

It is also to be observed that, in districts containing houses of a better class, and where there are many business premises, as in Plumbe Street and Hatton Garden, the consumption is invariably higher than in a low-class district. A considerable quantity of water is used for trade purposes and for horses, which is included in the consumption per head given in the table, and must be allowed for when a comparison is made.

The stand-pipes do not of themselves appear to have had much influence in diminishing waste. In a district (Paul Street) where the courts were supplied by means of common taps, the average consumption was about the same as in districts where stand-pipes had been erected. The Paul Street district has, within the last month, been similarly treated, and no marked change in the consumption produced, excepting that the variations from day to day are less, which is doubtless owing to the stand-pipe being self-closing, and the waste consequent on a tap being occasionally left open stopped.

WASTE-WATER METERS.

About eighteen months ago a plan was prepared, showing the division of the Borough of Liverpool into 300 districts, the whole of the water fittings in each of which were commanded by a single service-main.

It was at that time suggested that if the water in each such main were caused to pass through a meter, the various steps for the systematic reduction of waste might be proceeded with in the most economical and efficient manner. It was believed that when once the districts had been reduced to a proper rate of consumption, that rate could without difficulty be maintained by systematic reading of the meters, and by sending into the

districts in which the consumption had unduly risen the Waste-Water Inspectors, who formerly spent their time equally on good and bad grounds. The cost of the meters would, however, have been very great; and the actual saving capable of being effected by them was not at that time understood.

It was, therefore, decided to try the experiment at first with fourteen districts.

The value of the results has far surpassed the most sanguine expectations, as the figures already quoted show; and it may be safely stated that such results could not have been obtained without the meters.

The great cost of the ordinary piston meters, and the fact that, although they register the total quantities between any two observations, they do not register the quantities passing through the mains at any required time when an observation is not being made, induced the engineer to give his attention to the design of a meter which could be constructed at a small cost, and which would fulfil the special objects of a waste-water meter.

The four-inch meter designed for this purpose has the following properties: —

1. It can be constructed for less than one fifth the price of the piston meters at present in use.

2. It can be fixed, including the cover, for less than one seventh the cost of chambers and fixing for the ordinary meter.

3. It is absolutely self-registering; that is, it registers on a diagram the quantity of water flowing through the main at every moment instead of the total quantity between any two observations. The minimum night reading is such, a diagram is especially useful, as it indicates almost exactly the quantity of waste. Such information can only be obtained from an ordinary meter — and then but indifferently — by watching and counting the strokes during the night.

4. It distinguishes the variable waste due to taps and other water-fittings left running from the comparatively constant waste due to leaks in pipes.

5. A single diagram may be taken for any required length of time up to seven days, and when applied to a district of

1,000 to 2,000 persons it indicates distinctly the closing and opening of every separate tap. It is, moreover, equally sensitive at high and low velocities.

6. It may be safely stated that its accuracy is much less liable to change than that of a meter constructed on the principle of direct quantitative measurements, because it depends chiefly upon the accuracy of the dimensions of certain fixed parts, and not upon the maintenance of the accuracy of the points of moving parts, or upon the condition of cup-leathers, or other packing, as is usually the case.

7. The meter does not present the usual and objectionable obstruction to the motion of the water, the reduction of pressure probably never exceeding four or five ounces per square inch.

ADDITIONAL DISTRICTS UNDER TEST.

Two districts have been commanded by waste-water meters for a sufficient time to show the value of their indications in practice. One of these includes the greater part of the Exchange Buildings, Hackings Hey, Williams Street, Tempest Hey, and Tithebarn Street, between Moorfields and Exchange Street. The district consists principally of offices, and contains a population of 263 residents and 1,110 non-residents, who consume water elsewhere. Total, 1,373.

The diagram, being left on for three days before any intimation had been given to the consumers, gave the following results: —

	Gallons per head per day (Constant service.)	Average rate during the night.
Oct. 4 and 5	58.4	50.4
" 5 and 6	59.5	52.44
" 7 and 8	59.7	50
Average,	59.2	50.95

After the census of the district had been taken, and some superficial repairs made, the day reading came down to twenty-six, and the night reading to fifteen, gals. per head. It is not

for a moment to be supposed that this great change was brought about by the few repairs made; on the contrary, there is every reason to believe that it was due chiefly to the greater care exercised by keepers and others in closing taps at night, after the visits of the Waste-Water Inspectors. Indeed, the details of the diagrams confirm this view. The saving in this case would probably not continue long, unless regulating cisterns were substituted for the present apparatus.

OPERATIONS OUTSIDE THE TEST DISTRICTS.

When the re-piping work had been completed in the fourteen districts mentioned, it was necessary, in order to avoid breaking up the staff, to employ the men in a similar manner in districts unprovided with meters. This course is by no means satisfactory, as the result of the operation cannot be tested. The engineer, therefore, strongly recommends that meters be applied at once to a sufficient number more of the service mains to avoid going over the grounds twice.

CONCLUSIONS.

The average domestic consumption of water in Liverpool under the intermittent system is about twenty-four gallons per head per day.* In the first fourteen districts of low-class property that average was 19.59, and yet constant supply has been given, and the consumption reduced to 13.32, or more than ten below the general average.

On the other hand the tests on office property have shown that the consumption is much above the average, notwithstanding the fact that more than three fourths of the people use water elsewhere. In the Exchange district already mentioned, the average intermittent consumption was about six gallons above the general average, and was easily converted to constant service, and reduced to only one above that average.

Isolated meter tests, conducted in districts containing a better class of dwelling-houses, have indicated that the consumption

* This includes all water used from the service mains, except that sold by meter measurements for trade purposes.

is equal to about the general average, and this might reasonably be expected from the averages in the two first classes.

Hitherto, then, the results have been eminently satisfactory, and there is every indication that as different classes of property are reached, they will become even more so, although, until the proposed Parliamentary powers are obtained, there must always be a very large amount of waste, and a great expenditure in only partially successful efforts to keep it down.

(Signed) GEORGE F. DEACON,

Borough and Water Engineer.

WATER ENGINEER'S DEPARTMENT,
Nov. 11, 1873.

In regard to the financial results of this system we quote further as follows: "The result of these tests in fourteen districts of Liverpool was a saving, wholly due to inspection, repairs, and renewals, of 627,251 gallons daily, or 229,000,400 gallons yearly, which, estimated at the rate of the cost of water, say ninepence a thousand gallons, amounted to £8,587 sterling per annum."

It must be borne in mind, that the above tables show the saving in only fourteen districts of that city, including a population of less than 30,000 out of 500,000, the latest population of Liverpool.

It is striking to observe in this valuable report how the various causes of waste from precisely the same defects are detailed in the same way as have been set forth in Reports made to this Board; and of course if the same remedies were applied we may expect the same results. It will be noticed that their daily service was reduced from an average of $33\frac{55}{100}$ gallons per head to $13\frac{32}{100}$ gallons, while their nightly discharge was reduced from $17\frac{58}{100}$ gallons per head to $4\frac{84}{100}$ gallons per head.

REPORT

OF

THE WATER REGISTRAR.

WATER REGISTRAR'S OFFICE,
CAMBRIDGE, Dec. 1, 1875.

To the Cambridge Water Board:

GENTLEMEN, — Herein is respectfully presented the Annual Report of the Water Registrar for the year ending Nov. 30, 1875, showing a statement of the receipts and expenditures for the year, together with such other matters in the department as are deemed worthy of notice.

Receipts.

Water Rates	$138,880 37
Supply pipe, laying and repairing . . .	8,164 21
Fines, off and on water	275 00
Rent of house, pipe yard	150 00
	$147,469 58

All of which has been paid to the City Treasurer.

The decrease in the amount of income for the financial year from the previous year is . $22,131 54

Statement showing the amounts due the City Nov. 30, 1875, on account of Water Works: —

Amount due on supply account from City . .	$2,681 19
Amount due on supply account from sundry parties	8,712 37
Amount carried forward . . .	$11,393 56

Amount brought forward . . .	$11,393 56
Amount due on Water Rates from City, 1873 .	3,929 04
" " " " " " 1874 .	6,804 60
" " " " " " 1875 .	27,915 90
Amount due on Water Rates from sundry parties,	5,791 93
Total	$55,835 03

Expenditures.

The expenditures for the care and management of the works for the year ending Nov. 30, 1875, have been as follows: —

For care and repairs	$19,300 82
" pumping service	3,861 62
" office expense	5,489 33
Total amount	$28,651 77

The expenditures on the extension of the works for the year ending Nov. 30, 1875, were .	$153,170 67
The expenditures on supply account were . .	12,498 59

Statement of the yearly revenue received from water rates since the purchase of the works by the City: —

From April 28, 1865, to Dec. 1, 1865 . .	$32,367 19
" Dec. 1, 1865, " " 1866 . .	40,073 27
" " 1866, " " 1867 . .	52,733 62
" " 1867, " " 1868 . .	63,747 42
" " 1868, " " 1869 . .	76,149 30
" " 1869, " " 1870 . .	92,606 95
" " 1870, " " 1871 . .	111,782 65
" " 1871, " " 1872 . .	127,201 30
" " 1872, " " 1873 . .	146,117 32
" " 1873, " " 1874 . .	153,634 27
" " 1874, " " 1875 . .	138,880 37

In the last report there were remaining off for non-payment of rates	13	
Since shut of	254	
		267
Let on		137
Still remaining off		130

STATEMENT

SHOWING THE NUMBER OF FAMILIES, STORES, MANUFACTORIES, ETC., SUPPLIED WITH FRESH POND WATER TO DEC. 1, 1875.

9,770 Families.
1,071 Hand hose.
671 Private stables.
240 Stores.
97 Stationary engines.
43 Saloons.
41 Offices.
35 Meat markets.
33 Barber shops.
30 Schoolhouses.
26 Boarding-houses.
22 Bakehouses.
22 Greenhouses.
20 Blacksmith shops.
16 College buildings.
15 Soap manufactories.
15 Fish markets.
14 Public halls.
12 Churches.
10 Livery stables.
10 Coal wharves.
9 Billiard halls.
8 Lodging-houses.
8 Horse-railroad stables.
8 Club rooms.
8 Banks.
7 Machine shops.
7 Engine-houses.
7 Printing offices.
6 Furniture manufactories.
6 Lumber wharves.
6 Cow pastures.
6 Stone yards.
6 Marble works.
5 Carpenters' shops.
5 Police stations.
5 Harness shops.
5 Planing mills.
5 Nurseries.
5 Carriage manufactories.
5 Plumber shops.
5 Bacon works.
4 Public houses.
4 Paint shops.
4 Iron foundries.
4 Book binderies.
4 Photograph rooms.
4 Slaughter houses.
4 Cooper shops.
4 Post offices.
3 Cigar manufactories.
3 Steam railroad depots.
3 Steam railroads.
3 Box manufactories.
3 I. O. O. F. halls.
3 Aquariums.
3 Laundries.
3 Lard works.
2 Glass works.
2 Confectionery manufactories.
2 Organ factories.
2 Tinware manufactories.
2 Club stables.
2 Tallow factories.
2 Private schools.
2 Laboratories.
2 Masonic halls.
2 City stables.
2 Libraries.
2 Brush manufactories.
2 Stereotype foundries.
2 Boiler manufactories.
2 Spring-bed manufactories.
2 Sausage manufactories.
2 Potteries.
1 Cider refinery.
1 Chemical works.
1 Ice tool manufactory.
1 Coffin manufactory.
1 Fruit preserving company.
1 Cattle yard.
1 Almshouse.
1 Brass foundry.
1 Botanic garden.
1 Brickyard.
1 Currier shop.

1 City hall.
1 K. of P. hall.
1 City wharf.
1 Cemetery.
1 Drain pipe manufactory.
1 Distillery.
1 G. A. R. Hall.
1 Gas works.
1 Gymnasium.
1 House of Correction.
1 Lead pipe works.
1 Museum of Comparative Zoölogy.
1 Ice company.
1 Hardware manufactory.
1 Paper collar manufactory.
1 Rolling mill.
1 Sugar refinery.
1 Swine yard.
1 Grapery.
1 Bleachery.
1 Car wheel company.
1 Frame and moulding manufactory.
1 Oiled hat and clothing manufactory.
1 Shoe manufactory.
1 Freight depot.
1 Conservatory of music.
1 Rubber hose manufactory.
1 Mat manufactory.
1 Cheese factory.
1 Net and twine manufactory.

STATEMENT

SHOWING THE NUMBER AND KIND OF FIXTURES CONTAINED WITHIN THE PREMISES OF WATER TAKERS IN THE CITY OF CAMBRIDGE DEC. 1, 1875.

11,384 Faucets.
3,047 Water-closets.
2,876 Wash-bowls.
1,458 Bath-tubs.
1,454 Wash-tubs.
440 Slop closets.
88 Garden hydrants for hand hose.
78 Yard hydrants for family use.
13 Private fountains.
9 Tumbler washers.

During the year 13 meters have been applied and 4 removed from the premises of water takers, making the total number now in use 93. They are attached to a variety of manufacturing establishments, as follows : —

TABLE.

WHERE ATTACHED.	SIZE OF METERS.						
	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	1 in.	$1\frac{1}{2}$ in.	2 in.	3 in.	4 in.
A. H. Hews & Co.					1		
A. B. Furlong			1				
American Net & Twine Co.			1				
Botanic Garden			1				
Blake Hose Association		1					
Braman, Shaw & Co.				1			
Boston Nut & Bolt Co.			1				
Boston & Albany R. R.					1		
Boston & Lowell R. R.			1		3		1
Boston Chemical Works					1		
Boston Rolling Mill					1		
Boston Stamping & Manufacturing Co.			1				
Boston Car Wheel Co.		1					
Beal & Hooper					1		
B. P. Clark & Co.				1			
City of Cambridge					1		

TABLE, — *Continued.*

WHERE ATTACHED.	SIZE OF METERS.						
	⅝ in.	¾ in.	1 in.	1½ in.	2 in.	3 in.	4 in.
C. L. Jones			1				
C. B. French			1				
Cambridge Gas Light Co.		1					
Curtis Davis				1			
Dover Stamping Co.	1	1					
D. G. Pratt			1				
Doe & Hunnewell				1			
Fitchburg R. R.					1		
F. Draper & Co.		1					
F. Geldowsky				1			
G. G. Page & Co.					1		
George Woods & Co.				1			
George O. Ladd & Co.			1				
House of Correction					1		
H. O. Houghton & Co.			1				
Henry Thayer & Co.					1		
Hancock & Greely				1			
H. M. Clark		1					
H. M. Wyeth			1				
Harvard College			3	2			
Holyoke House					1		
J. P. Squire & Co.		1			1		
John Wilson & Son			1				
J. D. Osborn Estate					1		
John Reardon & Sons			1				
James C. Davis			1				
Leonard Cox		1					
Little, Brown & Co.			1				
Low & Knight				1			
Mt. Auburn Cemetery				1	1		
Mason & Hamlin		1	2				
Middlesex Bleachery		1					
Memorial Hall					1		
New England Glass Co.					1		
New England Brick Co.					2		
O. S. Bullock			1				
Oleomargarine Factory		1					
Prospect House				1			
Revere Sugar Refinery					1		
Reversible Collar Co.					1		
Russell & Dimick		1					
Sortwell & Co.					1		
S. M. Cofran					1		
St. Mary's Church					1		
Theodore Downing			1				
Union Glass Co.		1	2				
Union Railway Co.		4	1	2	3		
Woodbury & Co.					1		
Welch, Bigelow & Co.		1					
Whittemore & Hale			2				
Walworth Manufacturing Co.				1			

In compliance with the City Ordinance all buildings supplied with Fresh Pond water have been visited during the year.

Respectfully submitted.

A. F. FIFIELD,
Water Registrar.

REPORT

OF THE

SUPERINTENDENT OF THE WATER WORKS.

To the Cambridge Water Board:

GENTLEMEN, — In obedience to an Ordinance of the City I have the honor to present to you the Tenth Annual Report.

Pond.

The water in the pond has been kept low the present season, in order to afford an opportunity for dredging and cleaning up the borders of the pond, the work on which is now rapidly progressing.

A conduit has also been built connecting Spy and Little Ponds and Wellington Brook with Fresh Pond. These ponds are kept filled against an emergency, when the conduit can be opened and the level of Fresh Pond can be raised.

Engine-House.

The grounds around the engine-house have been graded up to a proper level with rich soil from the pond, and are all prepared for grassing over in the spring.

We have now a perfect duplicated system of pumping power, consisting of two of H. R. Worthington's Duplex Engines, each of a daily pumping capacity of 5,000,000 gallons, which, together with the boilers for each, are in complete working order. The conduit leading out into the pond to deep water, also the two force mains from the engine-house to the reservoir, are in perfect order, no repairs being required on either during the year. These force mains are so connected with valves that

we can pump either into the stand-pipe, the reservoir, or directly into the distributing pipes, as occasion may require.

The engines, in the past year, have run . 4,351 hours 45 min.
A daily average of . . . . 11 " 55 "
There have been consumed . . 1,780,900 pounds of coal.
A daily average of . . . 4,879 " "
The engines have made in the year 3,307,490 revolutions.
A daily average of . . . . 9,062 "
They have pumped during the year 992,247,000 gals. of water.
A daily average of . . . 2,718,485 " "

The monthly supply and daily average are shown in the following table, covering 52 weeks : —

	Days.	Total Gallons per Month.	Daily Average per month.
December, 1874	28	67,701,600	2,115,675
January, 1875	35	86,186,100	2,780,197
February, "	28	111,794,400	3,992,657
March, "	28	113,073,900	4,038,353
April, "	35	98,728,500	2,820,814
May, "	28	78,483,300	2,802,975
June, "	28	86,864,100	3,102,214
July, "	35	110,945,700	3,169,877
August, "	28	65,083,200	2,324,400
September, "	28	60,283,800	2,152,992
October, "	35	57,288,300	2,046,010
November, "	28	55,814,100	1,993,360

Reservoirs.

The reservoirs are in good order, and have had a very slight amount of repairs during the year.

Distribution Pipes.

On Harvard Street the 4-inch pipe has been removed, and a 12 and 10 inch pipe laid in its place, from Hancock Street east-

erly to the junction of Main Street, and all the side pipes have been connected with the same, giving us not only a greater supply of water for domestic purposes but for the extinguishment of fire. In addition to the above, 10 lines of small main pipes have been lowered that were frozen last winter; also a large number of supply pipes, to prevent, if possible, the experience of the past season.

Hydrants.

71 Hydrants have been set the past year. Among this number are 15 of the Pattee & Perkins' pattern, which are very satisfactory in their working to the Chief Engineer of the Fire Department, who has the locating of all these hydrants, under the direction of the proper authority.

Drinking Fountains.

One drinking fountain has been added during the year, making the total number sixteen. They are located as follows: —

North Avenue, corner of Walden Street.
North Avenue, opposite Mechanics Exchange.
Cambridge Common.
Harvard Square, opposite the store of Alfred Wood.
Brattle Square, opposite Brewer's Block.
Atwood's Corner, junction Cambridge and Hampshire Streets.
Cambridge Street, corner Fifth Street.
Bridge Street, junction Cambridge Street.
Third Street, between Main Street and Broadway.
Hampshire Street, junction Broadway.
Broadway, corner Norfolk Street.
Lafayette Square, front of Universalist Church.
Central Square, opp. the store of D. U. Chamberlin & Co.
Central Square, opposite the store of J. A. Holmes & Co.
Fort Washington.
Putnam Avenue, corner Pearl Street.

Stand-pipes for Street Watering.

Two stand-pipes for street watering have been erected the

past season, making the total number now in use thirty-five, located as follows : —

Main Street, west of Quincy Street.
North Avenue, near the Common.
" " " Forest Street.
" " " Beech Street.
" " " Day Street.
Concord Avenue, junction Garden Street.
Near University Press.
Inman Street, near Broadway.
Broadway, corner Winsor Street.
Columbia Street, near Austin Street.
Green Street, near Western Avenue.
Cambridge Street, at Atwood's Corner.
Cambridge Street, near Warren Street.
Gore Street, opposite Schoolhouse.
Otis Street, near Third Street.
Junction Bridge and Cambridge Streets.
Fifth Street, near Thorndike Street.
North Avenue, near Shepard Street.
Dana Street, corner Chatham Street.
Brattle Street, corner Sparks Street.
Broadway, corner Sixth Street.
Dublin Street, near Fitchburg Railroad.
Broadway, near Third Street.
Western Avenue, near Howard Street.
Third Street, near Rogers Street.
Main Street, near Portland Street.
Magazine Street, opposite Warland Street.
Main Street, near Hancock Street.
Kirkland Street, near Quincy Street.
Brattle Street, near Fayerweather Street.
Brattle Street, near Fresh Pond Lane.
Cambridge Street, near Winsor Street.
Mt. Auburn Street, near Athens Street.
North Avenue, near Spruce Street.
Brookline Street, corner Putnam Avenue.
Broadway, junction Hampshire Street.

Service Pipes.

Diameter in Inches.	Number of Pipes.	Length in Feet.	Totals.	
			Number of Pipes.	Length in Feet.
2	14	1,011	14	1,011
1½	12	1,021	12	1,021
1¼	. .	541	. .	541
1	19	1,868	19	1,868
¾	289	23,204	289	23,204
Aggregate			334	27,645

The total number of supply pipes is 6,570.

STATEMENT OF LOCATION, SIZE, AND NUMBER OF FEET OF PIPE LAID IN 1875.

In what Street.	Diameter in Inches.	Feet of Pipe.
Athens	4	50
Berkshire	4	162
Brighton	8	471
Berkshire Place	4	170
Brattle Square	6	120
Beacon	6	275
Belmont	4	108
Beckett Court	4	100
Chestnut	6	264
Crescent Avenue	6	96
Clinton	6	25
Clinton	4	540
Chestnut	4	180
Creek	4	60
Dana	4	590
Dunster	6	380
Dunster	4	80
Dunster	3	56
Eliot	6	494
Florence	4	17
Florence	3	200
Forest	6	12
Front	20	100
Green	20	4,414
Green	6	104
Greenough Avenue	4	172
Harris	6	12
Hampshire	6	25

STATEMENT OF LOCATION, ETC. — *Continued.*

In what Street.	Diameter in Inches.	Feet of Pipe.
Harris	4	735
Harvard	12	1,751
Harvard	10	4,038
Harvard	6	200
Harvard	4	150
Lee	6	10
Lee	4	388
Lake View Avenue	12	350
Lake View Avenue	10	400
Lake View Avenue	8	500
Lake View Avenue	6	60
Linden	6	50
Linden	4	367
Lowell R. R. Yard	4	25
Montgomery	6	110
Magazine	6	246
Memorial Hall	4	60
Main	4	12
Mt. Auburn	6	780
Moore	6	140
Market	6	10
Market	4	388
Main	20	470
Main	6	50
Norfolk	6	220
Otis	4	60
Orchard	4	400
Osborn	20	248
Osborn	6	25
Portland	12	690
Portland	6	16
Putnam Avenue	16	2,713
Putnam Avenue	6	150
Putnam Avenue	4	25
Plymouth	4	76
Pearl	6	250
Pacific	4	965
Putnam Avenue	24	200
Pleasant	4	30
Quincy	6	500
Quincy	4	463
Richdale Avenue	6	192
Raymond	6	402
Regent	6	212
South	6	300
Sparks	6	252
Sidney	4	500
Sidney	20	220
Sidney	6	25
State	20	1,083
State	6	30
School	6	620
Story	4	500
Trowbridge	4	204
Western Avenue	6	144
William	6	600

GATES.

In what Street.	Diameter in Inches.	Number.
Brattle Square	6	1
Berkshire	4	1
Berkshire Place	4	1
Beacon	6	1
Brighton	4	2
Beckett Court	4	1
Chestnut	6	1
Clinton	4	1
Dana	6	1
Dana	4	3
Dunster	6	1
Dunster	4	2
Eliot	4	2
Eliot	6	1
Front	12	1
Front	6	1
Florence	4	1
Greenough Avenue	4	1
Green	20	4
Green	6	10
Harris	4	2
Harvard	12	3
Harvard	10	7
Harvard	6	12
Harvard	4	6
Hampshire	6	1
Lee	4	1
Lowell Railroad Yard	4	1
Lake View Avenue	12	1
Lake View Avenue	6	1
Market	4	1
Main	6	2
Main	4	1
Magazine	4	1
Mount Auburn	6	1
Mount Auburn	4	1
Moore	6	1
Magazine	6	1
Memorial Hall	4	1
Norfolk	6	1
Osborn	20	1
Orchard	4	1
Portland	6	3
Putnam Avenue	16	4
Putnam Avenue	6	8
Putnam Avenue	4	3
Pleasant	4	1
Portland	12	1
Pearl	6	1
Quincy	6	1
Richdale Avenue	6	1
Raymond	6	1
Regent	6	1

GATES, — *continued.*

In what Street.	Diameter in Inches.	Number.
State	6	2
School	6	1
Sidney	4	1
South	6	1
South	4	2
Trowbridge	4	1
William	4	1
Winsor	4	1
Walden	6	1

BLOW-OFF PIPES.

In what Street.	Diameter in Inches.	Number.
Brighton	6	2
Brattle Square	6	1
Beacon	1½	1
Belmont	1½	1
Berkshire Place	1½	1
Chestnut	1½	1
Creek	1½	1
Eliot	6	1
Florence	1½	1
Greenough Avenue	1½	1
Green	6	7
Harvard	6	8
Magazine	6	1
Montgomery	1½	1
Main	6	1
Pacific	1½	1
Plymouth	1½	1
Putnam Avenue	6	2
Portland	6	1
Richdale Avenue	1½	1
South	1½	1
State	6	1

RECAPITULATION.

200	feet	24-inch.
6,535	"	20 "
2,713	"	16 "
2,791	"	12 "
4,438	"	10 "
971	"	8 "
7,401	"	6 "
7,577	"	4 "
256	"	3 "

GATES.

5	20-inch.
4	16 "
6	12 "
7	10 "
58	6 "
41	4 "

BLOW-OFF PIPES.

25	6-inch.
12	1½ "

STATEMENT

OF STOCK ON HAND EXCLUSIVE OF TOOLS AT SHOP.

Galvanized Pipe.

2 inch	200 feet.	1¼ inch	200 feet.
1½ "	300 "	¾ "	3,500 "

Fittings for Service Pipes.

1-inch hose bibbs	14	Fire hydrant stop and wastes	6
¾ " " "	14	Gate spindles	12
½ " compression bibbs	24	2-inch tees	50
1¼ " screw cocks	4	2 × 1 -inch tees	20
1 " " "	60	2 × 1¼ " "	12
¾ " " "	24	1½ " "	12
1 " sidewalk cocks	86	1½ × 1¼ " "	20
¾ " " "	323	1½ × 1 " "	12
1 " M. & F. cocks for cement pipe	64	1½ × ¾ " "	6
¾ " garden hydrant cocks	2	1¼ " "	40
1½ " blow-off cocks	2	1¼ × 1 " "	20
1½ " corporation cocks	2	1¼ × ¾ " "	12
¾ " " "	2	1 " "	30
2 " cocks	4	¾ " "	25
1½ " "	4	¾ × ½ " "	100
1 " "	20	½ " "	12
2 " stop and waste cocks	2	2-inch elbows	6
1½ " " " "	4	1½ " "	40
1¼ " " " "	2	1¼ " "	30
1 " " " "	30	1 " "	20
¾ " " " "	250	¾ " "	50
¾ " hose nipples	4	½ " "	10
¾ " solder nipples and unions,	2	1 " street elbows	20
		¾ " " "	25

2-inch couplings	30
1½ " "	20
1¼ " "	6
1 " "	100
¾ " "	50
½ " "	200
1-inch air chambers	10
¾ " " "	50
½ " " "	150
2 " unions	4
1½ " "	12
1¼ " "	10
1 " "	4
¾ " "	20
½ " "	6
1 " clips	30
¾ " "	20
½ " "	12
2 " crosses	12
2 × 1½-inch crosses	6
2 × 1¼ " "	12
2 × 1 " "	6
1½ " "	6
1½ × 1¼ " "	5
1½ × 1 " "	8
1½ × ¾ " "	12
1¼ " "	12
1¼ × 1 " "	10
1¼ × ¾ " "	10
1 " "	6
1 × ¾-inch crosses	6
¾ " "	6
¾-inch socket ends	100
Garden hydrants	2
2-inch nipples	4
1½ " "	2
1¼ " "	20
1 " "	12
¾ " "	50
½ " "	25
2 " plugs	4
1½ " "	6
1¼ " "	5
1 " "	6
¾ " "	10
½ " "	6
2 × 1½-inch bushings	8
2 × 1¼ " "	10
2 × 1 " "	6
2 × ¾ " "	8
1½ × 1¼ " "	5
1½ × 1 " "	8
1½ × ¾ " "	6
1¼ × 1 " "	6
1¼ × ¾ " "	5
1 × ¾ " "	10
¾ × ½ " "	12
1-inch lock-nuts	40
¾ " "	40
½ " "	20

Miscellaneous.

4 Flush hydrants.
100 Tons old junk.
4 Wagons.
2 Hand-carts.
2 Horses.
3 Sets harness.
1 Pung.
1 Large hand-pump.
1 Thawing stove.
1 Large boom derrick.
2 Small derricks.
2½ Tons lead.
1 Yard rubber packing.

Stock at Pipe Yard.

48-inch pipe	2 lengths.	12-inch pipe	5 lengths.
36 " "	26 "	10 " "	3 "
30 " "	25 "	8 " "	10 "
24 " "	23 "	6 " "	2 "
16 " "	67 "	4 " "	38 "

20-inch cross 1
20 × 12-inch cross 1
20 × 10 " " 1
16 × 12 " crosses 2
12 " " 2
12 × 10 " " 3
12 × 6 " " 7
12 × 4 " " 3
10 × 8 " cross 1
10 × 6 " crosses 7
8 × 4 " " 2
6 × 4 " " 11
4 " " 20
30-inch sleeves 2
24 " " 7
20 " " 4
16 " " 6
12 " " 10
10 " " 2
8 " " 2
6 " " 2
4 " " 3
3 " " 12
24 " clamp sleeves 5
12 " " " 5
10 " " " 6
8 " " " 6
6 " " " 5
4 " " " 5
3 " " sleeve 1
30 " $\frac{1}{16}$ bend 1
24 " $\frac{1}{4}$ " 1
24 " $\frac{1}{8}$ " 2
20 " $\frac{1}{8}$ " 1
16 " $\frac{1}{8}$ bends 2
12 " $\frac{1}{4}$ " 2
10 " $\frac{1}{8}$ " 14
8 " bend 1
6 " $\frac{1}{8}$ bends 5
6 " " to go over or under drains 20
20 × 6-inch blow-offs 3
16 × 6 " " 2
12 × 6 " " 1
24 " tee 1
24 × 8 " " 1
24 × 6 " tees 3
20 " " 3
20 × 12 " tee 1
20 × 10-inch tee 1
20 × 6 " tees 8
12 " " 3
12 × 6 " " 5
12 × 8 " tee 1
10 × 4 " tees 3
8 × 6 " tee 1
6 × 6 " tees 3
6 × 4 " " 4
4 " " 4
24 × 10 " reducer 1
20 × 12 " reducers 2
20 × 8 " reducer 1
16 × 6 " reducers 2
12 × 8 " reducer 1
10 × 6 " " 1
8 × 6 " " 1
6 × 4 " reducers 3
4 × 3 " " 6
20-inch caps 2
12 " " 12
6 " " 4
4 " " 7
10 " off-sets 8
6 " " 18
4 " " 4
12 " gates 4
10 " gate 1
8 " gates 2
6 " " 4
4 " " 3
3 " " 3
4 " meter 1
$1\frac{1}{2}$ " " 1
1 " meters 2
$\frac{3}{4}$ " meter 1
Large frames and covers 4
Frames and covers 4
Small frames and covers 6
24-inch elbow 1
10 " elbows 2
6 " " 19
24 " Y branch 1
12 " " 1
24 " check-valves 2
Stand-pipes for shut-off cocks . 42
One dwelling-house for teamster.
One stable and shed.

Stock at Engine House.

100 tons coal.
½ bale cotton waste.
20 pounds Martin's packing.
20 pounds hemp packing.
75 pounds sheet rubber.
6 cylinder gaskets.
20 gallons cylinder oil.
6 gallons lard oil.
16 gallons kerosene oil.
1 set grate bars.
150 fire brick.
1 barrel kaolin.
1 barrel pipe clay.
23 rubber valves, 9-inch.
1 rotary pump.
1 dwelling-house for engineer.
And all the requisite tools.

Respectfully submitted.

S. W. DUDLEY,

Superintendent.

REPORT

OF

THE SCHOOL COMMITTEE FOR 1875.

The School Committee for 1875 beg leave to offer the following

REPORT.

The principal changes in the exterior arrangements of the schools have been those occasioned by the completion and occupancy of the Agassiz Schoolhouse. The Training School has been removed to this building, and there have been established in it three Primary Schools, under the tuition of the teachers who had been associated with the Training School in the Riverside Schoolhouse. This arrangement necessitated certain other transfers of teachers, and certain alterations in the school-district lines in Ward No. 1, which were effected promptly and satisfactorily under the direction of the Superintendent.

The Committee have not been regardless of the need and duty of economy in the administration of all municipal trusts. They have carefully avoided such expenditures as were not essential or auxiliary to the actual work of education. Thus, for the new schoolhouse, instead of soliciting an appropriation for furniture, they used surplus furniture on hand in other schoolhouses; and this not merely for the immediate saving to the city, but from the conviction that those who are employed in the service of the public are bound to exercise in their several trusts the same prudence and frugality which they carry into the management of their own affairs.

Indeed, figures that admit of no dispute acquit our department of the charge of reckless or excessive expenditure of the public money. Since 1861 the increase of cost for the support of

schools has been but about three fourths of the rate of increase in the compensation of city officials generally. All our municipal office-bearers, the mayor alone excepted, have, as we believe, had their salaries or compensations more than doubled, in some cases quadrupled, — a much larger average increase than that of the compensation of the teachers. In this same period, while prices, wages, and salaries in general have been considerably more than doubled, and while the improvement both in exterior arrangements and in the methods and quality of the instruction given has been confessedly very great, the increase in the cost of tuition for each child is considerably below the increase in the average cost of supporting paupers and criminals, and the increase of cost for each scholar in the High School is *sixty-three* per cent less than in the schools of the city taken collectively.

The Committee have been gravely charged with extravagance in raising the salaries of the assistant teachers in the High School at a time when there was a general and earnest demand for retrenchment. Of these teachers, three have been placed as to salary on the same footing with the masters of the Grammar Schools; and this was regarded as but an act of simple justice, since the educational qualifications required in a High-School teacher exceed those demanded for the headship of a Grammar School, and therefore represent a larger capital invested in preparation for the office. As regards the senior assistant teacher, whose well-known learning and ability would fit him for a professor's chair, classical or mathematical, in any one of our highest seminaries of education, the city pays him considerably less than is paid to the other assistants, a large portion of his salary being derived from the Hopkins Fund through the agency of Harvard College, and paid on condition of his rendering certain extra services whenever they are demanded of him.

As for the seemingly inopportune season for an increase of salaries, it may be sufficient to say that this measure has long been regarded by the Committee as right and due, but was postponed from time to time, against their better judgment, on economical grounds alone, until the question was forced upon them whether they would take the step before which they had so

long hesitated, or lose the services of one of our most valuable teachers, to whom tempting offers had been made elsewhere.

The work of the schools during the past year has been performed to the general acceptance and approval of the Committee. The cases in which there is any ground for dissatisfaction with a teacher are very rare; those in which emphatic commendation seems merited are so numerous as almost to deprive praise of its emphasis. Those of us who have been the longest in service are able to recognize a marked improvement in our schools of every grade. For this there are several reasons. We have a very large proportion of permanent teachers, and among these are men and women whose habits are those of assiduous self-culture, general and professional, who love their calling, and avail themselves of all the aids for advancement in it which are afforded by educational publications, conventions of teachers, and societies for mutual improvement. Among our more experienced teachers there are not a few who would regard their ceasing to grow in conscious capacity and usefulness as a signal for them to resign their offices. In our Primary Schools the places that become vacant are generally filled by such graduates of the Training School as have already shown a capacity for teaching; and we could ask no better testimonial to the necessity and value of the Training School than the superior style of school-work, and the rapid passage from good to better, which we observe in the teachers whom it has furnished to our several districts.

The High School still holds its position as among the few foremost classical schools in the country, second to no other; while by far the greater part of its teaching power is employed in the (so-called) English Department, in which it is increasingly the aim to render the education less technical, and more helpful as regards the knowledge that shall train the pupils to become intelligent and cultivated members of society. For the boys the endeavor is to prepare them for a fair place and an honorable competition in their future callings, and to fit them for their duties as citizens and office-bearers.

We regard it as essential to the healthy working of our republican institutions that the opportunity for such an education as our High School affords should be offered to every

future citizen. If such privileges are to be had only by the children whose parents can pay for them, then public offices must either fall into incompetent hands, or be kept as the perquisites of a moneyed aristocracy. The latter alternative would be spurned by common consent; the former merits equal scorn and threatens even greater evils. The State educates children and youth, not for their sakes, but for its own sake; and it has no collective interest or need of more intense importance than the advanced culture of an ever larger proportion of those who shall be its citizens.

The sub-committees that have had charge of the Evening Schools and the Drawing Schools make favorable reports of their continued efficiency. In the Third Ward, mainly through the influence of Rev. Mr. O'Brien, a considerable number of adults, from twenty to forty years of age, have attended the Evening School, and there have not been wanting instances in which men who knew not a letter at the beginning of the school-term could read with reasonable correctness and fluency at its close.

On the importance of the Drawing Schools to young persons destined for mechanical arts or trades, it is impossible to place too high an estimate. The instruction there received may make for any one of them all the difference between being a mere drudge for his life long, and his early becoming a master workman, capable of planning and directing the labor of others. In this connection it is due to the skilful and indefatigable teacher of Drawing at the High School that we direct attention to the signal proficiency of her pupils. There have been drawn, during the last year, by members of that school, designs for vases and patterns for various articles of manufacture which have been pronounced by competent judges fully equal to the best work of professional pattern-drawers, thus demonstrating the practical character, and even the money's worth, of the most advanced education provided at the charge of the city.

The centenary year not unnaturally invites us to a comparison of our schools with what they were a hundred years ago. As regards the material apparatus of education, all except the rudest shelter has been erected within and far within the century. There now stands on Brighton Street the one-

story wooden building which in 1776 was the principal schoolhouse in Cambridge. Its former position was not far from the Washington Elm. In 1831 it was sold for eighty dollars, removed to its present site, and converted into a dwelling-house. In that building, which can never have had an interior as attractive as that of a decent stable, flourished a succession of teachers, many of whom rose to the highest places in church and state, while among their pupils were not a few whose reputation has been national or world-wide.

There is reason to believe that more and better work was done by our schools in the early days of our republic than is accomplished now. The chief reason for this difference is that almost all the scholars then came from families, if not cultivated, yet intelligent, in which knowledge was respected, learning honored, and in which the reading of such books as were attainable was in all cases the Sunday habit, in many cases the daily habit, of the household. Such scholars carried to school a willingness, often an earnest desire to learn, so that the teacher found himself surrounded by receptive minds. To this state of things the inartificial method, or rather the absence of method then prevalent, was well adapted. There was no arbitrary and fixed arrangement of classes, or plan of classification; but each scholar was virtually a class by himself, in some studies perhaps reciting alone, often out of school-hours; in others associated with different companions, according to his or their proficiency.

Our present system of graded schools is indeed a seeming, nay, so far as we can now see, an inevitable necessity; but it is a drawback and a hardship to all the better scholars. It condemns the foremost to advance no faster than the hindermost can be dragged or driven. There are, therefore, in all our Primary and Grammar Schools, boys and girls who have their time not half occupied by their required studies, and who are actually forming habits of idleness in what ought to be their working hours. When this system is employed to equalize, not only the members of the same class, but the schools of a town or city, its results are still more to be deplored; for in districts largely inhabited by the non-reading portion of the community, the average capacity of the children is very far inferior to that

of the children of moderately intelligent parents. It is to the large number of children of the former class that we are to ascribe for the most part the diminished amount of educational work actually accomplished.

In comparing the present time with the former, it must also be borne in mind that, while a great deal more is said and written about education than formerly, the amount of time and energy devoted to it by those under instruction is very much less than it used to be. From hardly a week in the year, vacation has grown into three months at the very least. While study out of school was the unvarying rule, except for quite young children, it is now the rare exception. While the school formerly divided the general attention and interest only with the church, it now receives little attention, save from its official guardians. Then, too, the children of the classes of society from which the best scholars might be expected have their minds distracted from study and school-life by premature engagement in such interests, pursuits, and recreations as used to belong only to persons of maturer years, and a great deal of school-work is spoiled by these forms of juvenile dissipation.

We apprehend, too, that the tyranny of system, while it may have been of advantage in many cases, has somewhat impaired the efficiency of the better class of teachers. There used to be too little of system for the restraint and guidance of inexperienced and partially competent teachers; but one who was fitted for his profession and loved its duties was free to discharge them in his own best way, unhampered by rule, prescription, or custom. At the present time there are numerous formalisms, restrictions, conventional ways of saying and doing things, in fine, a sort of school ritual and rubric, very serviceable as a directory for new and feeble teachers, but embarrassing and retarding to those who are amply qualified to plan and manage their own work.

For these reasons, our belief is that while our school-system has made an immense gain in its physical apparatus, while the standard of ability among teachers has not declined and that of special training and qualification for the teacher's office has greatly advanced, and while under the existing system we have witnessed a constant improvement in our own schools, — the

average education now obtained by children at our public schools does not surpass, perhaps does not equal, that obtained under a much ruder organization, but in a state of society more propitious to successful school-work.

There are several ends towards which, as we think, special attention should be directed by our educational Boards in order to adapt our system to the actual needs of our population.

The training should be, as far as possible, directly useful, and ornamental only so far as this characteristic belongs to whatever is truly useful. Thus, when we consider the large proportion of children who have no access to books at home, the great aim should be to enable them to read fluently and intelligently, without reference to those finer graces of accent and modulation which can be cultivated only by dwelling upon the same piece until what is called reading becomes mere recitation. The desired end would be best attained by having a much larger amount read in schools than is read now, and that of matter which will interest the pupils and give them a taste for reading.

We trust, also, that there will be a gradual weeding out from our school-system of such studies and such details in particular departments as can be of no possible service to the scholars in after life, such as the technicalities of English Grammar, and the memorizing of names that can never have any significance to the learner, and of dates committed only to be forthwith forgotten; while the endeavor should be to stimulate the mind into activity, and to give it materials upon which it can act, — instruction as to the existing world and universe (not forgetting the portions that lie nearest), lessons from history and biography, explanations of common objects, phenomena, and events, familiar views of science in its application to the useful arts, and the faithful exposition and illustration of the laws and principles, physical and moral, that underlie and control the life which the pupils lead and are going to lead.

When we consider the fact that every adult man is, and the possibility that every adult woman soon will be, a citizen, we cannot but believe that our schools ought to give instruction in the principles of civil government, the Constitution of the United States, and the rights, privileges, duties, and responsibilities connected with the franchise and suffrage. It has

been difficult to obtain even for our High School text-books in this department entirely free from objection; while for the large proportion of our scholars who do not go beyond the Grammar Schools we know of no book sufficiently simple and elementary. We trust that the deficiency will before long be supplied, and that this department, second to none in its actual importance, will not continue to be neglected and ignored. We are, indeed, aware that such books would be of little worth without ample illustration and commentary by the teacher; but we have greatly overrated the ability and willingness of our teachers, if anything should be found wanting on their part in the special education of our future citizens.

The Committee ought not to close their report without bearing emphatic testimony to the able and faithful services of the Superintendent of Common Schools. His own experience as a teacher adds great efficiency to his work, and brings him into serviceable relations of mutual understanding and sympathy with the teachers. It is believed that the Committee have never had reason to differ from him in judgment, while they have often guided their own decision and action by his mature practical knowledge and safe wisdom.

All which is respectfully submitted.

ISAAC BRADFORD, *Chairman ex officio.*
ANDREW P. PEABODY,
EDWIN B. HALE,
JOHN L. HILDRETH,
EDWARD R. COGSWELL,
WILLIAM S. KARR,
HENRY HINCKLEY,
ALBERT L. NORRIS,
SAMUEL W. McDANIEL,
JOHN O'BRIEN,
JAMES A. DOW,
GEORGE E. McNEILL,
GEORGE R. LEAVITT,
PHILIP R. AMMIDON,
WILLIAM S. APSEY,
THEOPHILUS G. WADMAN,
} *School Committee.*

TABULAR VIEW

OF

THE PUBLIC SCHOOLS OF CAMBRIDGE,

JANUARY 1, 1876.

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1876.
High School,	Lyman R. Williston . . .	$4,000	402
	William F. Bradbury . .	3,000	
	John Orne, Jr.	2,500	
	Theodore P. Adams . . .	2,500	
	Solon F. Whitney	2,500	
	Mary F. Peirce	1,200	
	Emma A. Scudder	1,000	
	Hannah Gleason	1,000	
	Augusta L. Brigham . . .	1,000	
	Olive E. Fairbanks . . .	1,000	
	Emma F. Munroe	1,000	
	Mary C. C. Goddard . . .	1,000	
Allston Grammar,	Benjamin W. Roberts . .	2,500	488
	Lizzie B. Winnett	850	
	Emma F. King.	800	
	Sarah G. Hinckley	800	
	Emily R. Pitkin	800	
	Lucia E. Whiting	700	
	Susan H. Ricker	700	
	Hattie E. Keith	700	
	Emma E. Perkins	700	
	Hannah L. Hill	700	
	Henrietta Woods	700	
	Ida G. Smith	700	
	Minnie L. McKay	700	
Harvard "	Aaron B. Magoun	2,500	615
	H. Augusta Dodge . . .	850	
	Ada H. Wellington . . .	800	
	Mary E. Wyeth	800	
	Margaret B. Wellington,	800	
	Lydia S. King	700	
	Susan F. Athearn	700	
	Margaret R. Hodgkins . .	700	
	Annie M. Leland	700	
	Susan E. Merrill	700	
	Emily F. Damon	700	
	Sarah E. Golden	700	
	Ellen Merrick	700	
	Sarah E. Dyer	700	
	Mary F. Emerson	700	
	Emma Clough	700	

TABULAR VIEW OF THE PUBLIC SCHOOLS, — *Continued.*

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1876.
Putnam Grammar,	James S. Barrell	$2,500	386
	Sarah M. Burnham . . .	850	
	Anna B. Josselyn	800	
	Addie Stone	800	
	Eliza M. Hussey	800	
	Ella R. Grieves	700	
	Charlotte A. Brown . . .	700	
	Augusta G. Mirick . . .	700	
	Sarah L. Merrill	700	
	Maria E. Spare	700	
Shepard "	Daniel B. Wheeler . . .	2,500	432
	Mary C. Cook	850	
	John Wilson	800	
	Julia H. Osgood	800	
	H. Estelle Varney	800	
	Sara J. French	700	
	Sarah A. Rand	700	
	Harriet L. Hayward . . .	700	
	Emily F. Fessenden . . .	700	
	Cora M. Wheeler	700	
	Fannie A. Cooke	700	
Thorndike "	Ruel H. Fletcher	2,500	470
	Ellen N. Parker	850	
	Martha A. Martin	800	
	Mary E. Nason	800	
	Isabella B. Tenney . . .	800	
	Ella W. Clark	700	
	Ruth H. Faxon	700	
	Mary A. Higgins	700	
	Fanny Allen	700	
	Grace W. Fletcher . . .	600	
	Emma A. Hopkins . . .	700	
	Abbie A. K. Howard . . .	700	
Washington "	Daniel Mansfield	2,500	494
	Hattie T. Nealley	850	
	Lucy A. Downing	800	
	Adeline M. Ireson	800	
	Emma F. Veazie	800	
	Abby M. Webb	700	
	Adelaide A. Keeler . . .	700	
	Adelaide A. Keith	700	
	Dora Puffer	700	
	Adelia Dunham	700	
	Ada E. Doe	700	
	Emma P. Eaton	700	
Webster "	John D. Billings	2,500	560
	Gertrude E. Hale	850	
	Louise C. D. Harlow . .	800	
	Esther F. Hannum . . .	800	
	May E. Towle	800	
	Gertrude A. Hyde	700	
	Charlotte M. Chase . . .	700	
	Susan B. Holmes	700	
	Emily H. Phinney	600	

TABULAR VIEW OF THE PUBLIC SCHOOLS, — *Continued.*

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1876.
Webster Grammar,	Anna S. Lamson	$700	
	Clara E. Matchett	700	
	Carrie M. Kingman . . .	700	
	Alice Grey	500	
	Marion H. Burnham . .	600	
Boardman Primary,	Mary Agnes Lewis . . .	700	339
	Sarah E. Stewart	700	
	Adah W. Baker	700	
	Nettie Sargent	700	
	Augusta L. Balch	700	
	S. N. Chamberlain . . .	700	
	Eliza A. Dow	700	
	Carrie A. Cooke	600	
Bridge "	Elizabeth E. Dallinger . .	700	79
	Emily C. Dallinger . . .	700	
Dana "	Abby A. Lewis	700	95
	Maria F. Williams	700	
Dunster "	Sarah B. Waitt	700	78
	Susan E. Wyeth	700	
Felton "	Ella L. Lynes	700	173
	Georgiana L. Backus . .	700	
	Sarah L. Cutler	700	
	Eliza J. Cutler	600	
	Augusta M. Houghton . .	600	
Gannett "	Sarah J. A. Davis	700	232
	Lucy C. Wyeth	700	
	Estelle J. French	700	
	Anna M. Jones	700	
	Charlotte E. Mitchell . .	700	
Gore "	Harriet A. Butler	700	421
	Frances E. Pendexter . .	700	
	Alice J. Winward	700	
	Mary E. Hartwell	700	
	Addie M. Bettinson . . .	700	
	Agnes M. Cox	700	
	Mary A. Bourne	600	
	Nellie L. Pike	500	
Harvard "	Ellen A. Cheney	700	82
	Helen M. Ward	700	
Holmes "	Marianne M. Webb . . .	700	193
	Eunice W. Field	700	
	Mary L. Bullard	700	
	Louisa G. Matchett . . .	700	
Mason "	M. Lizzie Evans	700	108
	Alma A. Smith	700	
Otis "	Abby S. Taylor	700	387
	Lydia A. Whitcher . . .	700	
	Martha H Butler	700	
	Ellen N. Pike	700	
	Luvia Goodnow	700	
	Annie Knapp	700	
	Kate F. Wellington . . .	700	
	Carrie H. Smith	700	
Putnam "	Nellie F. Ball	700	59

TABULAR VIEW OF THE PUBLIC SCHOOLS, — *Continued.*

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1876.
Quincy Primary,	Charlotte E. Jewell . . .	$700	110
	Talulah G. Abercrombie .	700	
Reed "	Lucy T. Sawyer	700	131
	Evelyn A. Sawyer	700	
	Elizabeth A. Tower . . .	700	
	Hattie N. Keyes	700	
Riverside "	Mary E. Smallidge . . .	700	207
	M. Louise Akerman . . .	700	
	Jeanie Prescott	600	
	Florence M. Hayward . .	500	
Sargent "	Frances J. Harrod . . .	700	190
	Mary A. Brown	700	
	M. Elizabeth Dickson . .	700	
	Lizzie C. Capen	700	
Willard "	Mary Ann Tarbell	700	439
	Mary E. Sawyer	700	
	Kate M. Lowell	700	
	Fanny E. Cooke	700	
	Amelia Wright	700	
	H. Flora Hannum	700	
	Evelina Brooks	600	
	Laura Wright	600	
	Grace R. Woodward . . .	600	
	Louise W. Harris	500	
Wyman "	Fannie E. M. Dennis . .	700	191
	Charlotte A. Ewell . . .	700	
	Letitia M. Dennis	700	
	Martha C. Dickman . . .	700	
Training School,	Anna C. Sullivan	1,000	123
	Ella C. Whitney	800	
	M. Etta Arkerson	800	
	Emma B. Alley	800	
City "	Jeanie A. Norris	800	64
	Nellie A. Hutchins . . .	700	

TEACHER OF SINGING, — Nathan Lincoln $2,500
SUPERINTENDENT OF SCHOOLS, — Francis Cogswell . . . 3,000

SUMMARY.

Number of Pupils in High School	402
" " " " Grammar Schools	3,445
" " " " Primary Schools	3,701
	7,548

COST OF INSTRUCTION.

High School	$21,700	for each pupil	$53 98
Grammar Schools	76,850	" " "	22 21
Primary Schools	57,400	" " "	15 51
Music	2,500		
Salary of Superintendent . .	3,000		
	$161,450	for each pupil	$21 14

Number of Pupils belonging to Public Schools, Jan. 1, 1876	7,548
" " " " " " " Jan. 1, 1875	7,816
Decrease during the last year	268
Average annual increase of Pupils from 1860 to 1874, inclusive	246
Decrease of Pupils, 1875	268

Number of Schools	28
" " Teachers	184

REPORT

OF

THE SUPERINTENDENT OF SCHOOLS.

To the School Committee of Cambridge:

Gentlemen, — It was with hesitation and diffidence that I accepted the office of Superintendent of Public Schools. The position seemed to me a difficult and a responsible one, and a year of practical acquaintance with the work has only deepened this impression. The duties and responsibilities of the office are many and varied; the field of labor is a broad one, and includes an almost infinite diversity of cares and interests. Even with the first general survey that one gives it, a hundred vital questions force themselves upon his attention.

Is our school system defective in any respect? Should schools be provided for those of more tender years? Do we carry education too far at the public expense? Should special instruction be furnished to those intending to teach? Is the range of studies too wide for common schools? Are the text-books now in use the best? Are there better methods of classification, of instruction, of school government? Can examinations and promotions be changed for the better? Are teachers selected with sufficient care? Are all the teachers now in service doing their work in the best manner? Do parents fully co-operate with teachers, and manifest a proper interest in the schools? Are pupils impressed at home and at school with the importance and value of an education, and especially with the importance and value of a noble character? Are the disobedient and wayward made to feel that those who give reproof still take a deep interest in them, and seek only their true wel-

fare? Are there no efficient remedies for the evils of tardiness and absence and truancy? Must ignorance or indifference or cupidity on the part of parents continue to deprive hundreds of children of the blessings of an education, thereby unfitting them to become good citizens? Are the health and comfort of scholars and teachers sufficiently cared for? Is there no remedy for cold rooms and impure air? Must buildings inconvenient in arrangement and unfit for use remain unaltered? Should new buildings be erected or old ones changed without matured plans? These questions and many kindred ones of equal moment present themselves for consideration as one enters upon an office like mine; but they are not to be settled in a year, perhaps not completely in many years; above all, they are not to be decided rashly. It is easy to change programmes of study and to introduce new methods of instruction and discipline: but change is not necessarily improvement; if hastily or imprudently made, it may prove a change for the worse rather than the better; a reconstructive policy is sometimes a destructive one, and reform defeats its own ends. But even were one disposed to such a policy, he certainly ought not to venture upon it until he has made himself thoroughly acquainted with the existing state of things; and this, in the case of a complicated educational system like ours, must be the work of time. During my first year in office, therefore, I have not sought to bring about radical changes, but rather to study the details of the work as I found it arranged, and to aid in obtaining the best results from plans already in operation.

I believe that my predecessor was eminently wise in the course which he pursued. He made no attempt to revolutionize the schools, but year by year evils were eliminated and improvements of permanent value introduced. Even when important changes and reforms are called for, this may be in the long run the speediest as well as the easiest way of bringing them about. Evils are often most effectually attacked in an indirect way. Try to eradicate them at once, and you provoke opposition that may compel you to desist; or, if you succeed, you may be pulling up the wheat with the tares, destroying what little good the old system was doing in spite of its defects. On the other

hand, by the gradual introduction of better methods, the improvement is effected quietly, almost imperceptibly, and yet none the less thoroughly. I do not say that this should be the invariable policy in dealing with the faults and errors of our school system. There are cases in which the axe should be laid unto the root of the tree, instead of letting it stand, and trying to engraft something better on the old stock. Which is the wiser course to pursue in any given case must be matter for careful consideration at the time.

CHANGE OF TEACHERS.

During the past year there have been but few changes in the corps of teachers. Only eleven vacancies have occurred, a number much smaller than usual. One teacher resigned to accept a position in Boston; another, to teach in the Royal Normal College for the Blind in London; and another was removed from her labor in a most sudden manner by death. Mrs. Annie M. Harrod, for many years a teacher in the Sargent Primary, was stricken down Sept. 28, at an early evening hour, after having performed the duties of the day in her usual health. A kindly spirit always pervaded her work, and she will long be held in loving remembrance by her pupils.

DISCIPLINE.

In the discipline of the schools there has been no change from the methods followed for several years past. In addition to the personal influence of the teacher, the co-operation of parents is solicited, the usual milder methods of punishment are employed (such as detention after school for the half-hour allowed by the School Regulations); and when these methods fail, as a last resort in most of the schools, the pupil is suspended for a limited time. In a few schools, instead of suspension, corporal punishment is sometimes inflicted. But neither corporal punishment nor any form of punishment that may be deemed objectionable can be very frequent; for in making more than eight hundred visits to the different schools the past year, often looking into several rooms in the same building

without giving the teachers notice, I have only once heard the sound of a blow, and have seen but little that would indicate improper modes of discipline. On the contrary, I have usually found a spirit pervading the schools which indicated the happiest relations between teachers and pupils.

Under the present management, the principal cause for complaint is the temporary suspension of pupils. This form of discipline is necessary unless means are taken to enforce obedience at the school-room, and it is usually effectual when it receives the approval of parents. But many parents are not sufficiently interested in the welfare of their children to do their part in rendering this discipline useful. On the contrary, they are vexed at having the children sent home, as if the teacher were endeavoring to shift his responsibility upon their shoulders; not unfrequently they express their irritation to the children, and thus utterly defeat the purposes of the discipline. I believe that the majority of teachers never resort to suspension until all other modes of discipline have been fairly tried and have proved ineffectual; and could they have the hearty co-operation of parents, the problem of school management without corporal punishment would be solved. As it is, the most potent instrumentality in their hands, indeed the only one available in extreme cases, is nullified by the indifference or direct opposition of the parent. I am fully persuaded, however, that the evils which exist to-day under the present methods of school discipline are less than they were under the old management twenty years ago. Cannot some means be devised to diminish the friction found in the working of our present system, and so get the full benefit it is capable of yielding?

My experience as a teacher has shown me that in many cases solitary confinement is better than suspension; that is to say, it is better to send a disobedient pupil to a room by himself for a day, or a week if need be, than to send him home; and it might be well to provide a few small rooms for this special purpose. These rooms should be light, warm, and comfortable, and scholars sent to them should receive every needed attention in their studies and in all other respects.

Another plan worth considering is the establishment of ungraded schools to which the few who are the real cause of trouble might be sent. In this way the present schools would be relieved of a disturbing element, and it is possible that the new schools, placed under teachers of peculiar qualifications, would eventually come to rank in scholarship and discipline as high as the others. Under this plan, there would be an immense saving of power in the management of the schools. At present the labors and cares of the teacher are often more than doubled by the necessity of governing a few disorderly pupils. Much valuable time is wasted on the rebellious minority, which otherwise could be used for the advantage of the well-disposed majority. The loss of time, great as it is, represents only a small fraction of the real loss. The wear and tear of brain and nerve which the teacher suffers is a far more serious, though less obvious, part of the mischief. We venture to say that nine out of ten teachers, if questioned on the subject, would testify that the work of instruction is much less exhausting than the work of discipline, and that the real difficulties of the latter are due to a very small percentage of the pupils, perhaps to only one or two members of a school of a hundred.

EXAMINATIONS.

For several years past, examinations under the direction of the Committee have been held at the close of the Autumn Term, and private examinations at some time during the Spring Term. Written examinations for promotion have also been regularly conducted by the teachers. These examinations, as to time and character, seem well adapted to the purposes for which they are held. The first affords an opportunity for parents and friends to visit the schools; the second enables the Committee to judge understandingly of the quality of the teaching; and the third, taken in connection with the regular work of the schools, shows the proficiency of each individual scholar. The examinations, however, would be more valuable could the Committee devote more time to them; but to give even the time now required is a serious tax upon any professional or business

man, and it is hardly to be expected that more will be given, unless each member of the Committee can be free to select the days when he is most at leisure. This would not be practicable in the case of the public examinations, for it is desirable that they should all occur at nearly the same time; but I can see no valid reason why the private examinations may not extend over a period of several months, thereby enabling the Committee to attend to the work at their leisure and convenience, and, of course, more thoroughly than is now possible. The difficulty in regard to the public examinations might possibly be met were each member of the Board authorized to invite some one to aid him in the work. I believe there are many persons in our City who would cheerfully render such assistance, and it is possible this method might be the means of awakening a more general interest in the schools.

READING.

It has been recently said that "the town library is hardly less important as an element of public education than the town school." May it not be true that a school library would be hardly less important, in this respect, than a town library? Even the benefits derived from the latter would be greatly increased were persons taught in their youth *what* books to read and *how* to read them. It is the testimony of those in charge of public libraries that three fourths of the demand is for the "poorer descriptions of reading." Is not this the case simply because the mind has not been trained to appreciate the better class of books? A large proportion of children are surrounded by influences unfavorable to the formation of good habits in reading. Should not the schools be made to counteract this influence? It seems to me that they may do this, first, by supplying suitable books, — such, to use the words of another, as "the histories which attract and instruct, the biographies which leave a glow in the minds of their readers, the poetry that is both popular and elevating, the travels that almost reconcile us to the necessity that forbids us to wander, and the tales that sparkle without corrupting and that let us laugh and still be

wise"; and in the second place, by devoting a part of the school-hours to the use of these books. Better omit one half of our present Geography and one third of the Arithmetic than have children pass out of the schools with no love or taste for reading.

The subject of reading was fully presented in the Report of your Board for the year 1871. To a limited extent the suggestions then made have been followed. Books and magazines have found their way to the school-room. But school reading-books cannot be dispensed with, nor school libraries formed, without action on the part of the Committee.

A step was taken in the right direction when copies of "The Nursery" were furnished to the Primary Schools. The lower classes of the Grammar Schools should also be provided with magazines or books, — not to be taken from the school-room, but to be used in connection with the regular reading lessons. For the upper grades a plan might be adopted looking to the formation of a library; not a library containing a large number of miscellaneous books, but one containing a sufficient number of copies of a few carefully selected books to enable a whole class at the same time to read or study a particular author. This can be done, as suggested in the Report to which reference has been made, by appropriating year by year even a less amount than the annual cost of the present reading-books. In order to make the most of a limited expenditure, it might be well to buy a different set of books for each school, and to send them from one school to another after they had been thoroughly read. A "circulating" library of this kind would furnish a sufficient variety of good reading for the seven Grammar Schools at a very moderate outlay. As books accumulated, this circulating plan might be gradually given up, and at last each school would have a permanent library large enough to supply all its wants. The question may be raised as to the authority of the Committee to appropriate money for such a purpose; but I am confident that the City Council would readily co-operate in carrying out a plan that would in a few years, without additional expense to the citizens of Cambridge, place a library of permanent value in each of our Grammar Schools.

DRAWING.

This branch of education has been steadily growing into favor as its object and utility have been better understood. Formerly it was looked upon merely as an ornamental study, and not one of such practical importance as is now claimed for it. Mr. Philbrick, in speaking of the importance of drawing as a common-school study, says, "It is a thing of use in every department of business and in every condition in life; it is in itself an expressive language, easily depicting to the eye what no words, however well-chosen, can represent; it is the best means of cultivating the power and habit of accurate observation, and of developing the perception and the love of the beautiful in nature and in art; it is the fundamental branch of all industrial education; it is indispensable for the architect, the engraver, the engineer, the designer, the draughtsman, the moulder, the machine-builder, the head-mechanic, and indeed for all skilled craftsmen; it is calculated to afford invaluable aid to the inventive genius of our people; it is an instrumentality for illustration which should be in every teacher's hands; and if properly taught, it more than compensates for the time it takes by facilitating instruction in other branches."

Whether the advocates of drawing have not exaggerated the importance of the subject, I will not presume to decide; it is sufficient that drawing is a required branch of instruction in the common schools of Massachusetts. The question is not *whether* it shall be taught, but *how* it shall be taught. This is an important consideration.

To secure the best results in any branch of instruction, there must be systematic work from the beginning. This is not the case with regard to drawing in our schools, nor will it be till there is special supervision of the whole work.

Cities of ten thousand inhabitants are also required to maintain free industrial drawing schools. Such schools have been established in this City, under the most favorable circumstances as to teachers and accommodations. Could not arrangements be made by which the work of supervision in the day schools and of instruction in the evening drawing schools might be

performed by one teacher? As a permanent position is more desirable than a temporary one, the yearly salary need not much exceed the amount now expended for evening schools alone.

VOCAL MUSIC.

As the plan of instruction in this department has been entirely changed within a few years, and as the results already attained show the wisdom of the new methods, it seems to me desirable that a connected account of the changes should find permanent record for future reference. I therefore ask that the following report of Mr. Lincoln, the Singing Master, be printed in this connection: —

REPORT.

Up to October, 1870, musical instruction had been given in all the schools by the Singing Master alone. At that time, owing to the increase in the number of rooms, it was found impracticable to follow this course longer. An order presented by Rev. Dr. Mason, then Chairman of the Committee on Music, was passed by the School Board, whereby it was provided that "musical instruction in the Primary Schools should be given by the teachers in these schools, under the superintendence of the Singing Master." This plan went immediately into operation, and the following programme was placed in the hands of the teachers: —

PROGRAMME OF STUDY IN THE PRIMARY SCHOOLS.

Third Class.

Pupils are to be taught by rote at least three new songs in each term, in good taste and style.

Sing the scale by numerals, by letters, by the syllables *do*, *re*, *mi*, etc., and by the syllable *la*.

Practise from the Primary School Music Chart, or from a scale written upon the board, the teacher pointing to the notes, so that the pupils can learn to sing any consecutive sounds in the octave.

It is well to pitch the scale as high as D.

Let the pupils be taught to give the names of all the characters on the chart as they are pointed out by the teacher.

As far as possible, see that each pupil, before leaving this

class to enter the Second Class, be able to sing the scale correctly.

Above all things, *secure a sweet, agreeable quality of voice*, and never tolerate loud or harsh singing.

Let ten minutes at least, each day, be spent in careful study and practice of music.

Second Class.

Pupils are to be taught by rote at least three new songs in each term, in good taste and style.

Sing the scale as in the Third Class, taking in addition the sound *seven* below and the sound *nine* above.

Practise skips in the scale, so that the pupils can take any interval within the octave as the teacher points to the scale on the chart or board, or calls the corresponding numerals.

Write exercises frequently to test the ability of the pupils to take these intervals and to sing at sight in quarter notes and quarter rests.

Let the pupils be able to give the letter names, as any line or space of the staff with the G clef is pointed to.

Before leaving this class for the next higher, each pupil should be taught to name any of the characters on the chart, when copied on the board or elsewhere by the teacher.

Above all things, *secure a sweet, agreeable quality of voice*, and never tolerate loud or harsh singing.

Let ten minutes at least, each day, be spent in careful study and practice of music.

First Class.

Pupils are to be taught by rote at least three new songs in each term, in good taste and style.

Practise the scale as in the Third Class, adding the sounds *six* and *seven* below, *nine*, *ten*, *eleven*, and *twelve* above, starting from the pitch C.

Practise skips of the scale, so that the pupils can take any interval from the sound six below to the sound ten above, either when notes upon the staff are pointed to by the teacher, or figures written upon the board or dictated.

Write exercises frequently to enable the pupils to sing at sight in quarter and half notes, and quarter and half rests.

Let the pupils be able to make upon their slates or the board any of the characters upon the Primary School Music Chart, as they may be called for by the teacher.

Teachers should beat time when the children sing.

Above all things, *secure a sweet, agreeable quality of voice*, and never tolerate loud or harsh singing.

Let ten minutes at least, each day, be spent in careful study and practice of music.

In June of the following year an examination was held in the Old High Schoolhouse in the presence of the Music Committee, Mr. Superintendent Hale, all the Primary-School teachers, and other visitors, at which five teachers presented a detachment of scholars (some sixty in all), who were subjected to a very thorough examination in singing of songs, reading music at sight, and other exercises. The result was a complete success, and in the words of Dr. Mason, "the plan of instruction had been demonstrated to be practical and satisfactory."

In January, 1873, by order of the School Committee, Mason's "Music Charts" were introduced into the First Class of the Primary Schools, not to modify the course of instruction as given above, but rather to serve as a supplement to it. In the following year the "Musical Readers" by the same author were added to the list of books in the hands of the First Class.

It is proper for me to say, that there is now a fair amount of good work doing in music in the Primary Schools, although I have but seven hours a week to spend among them all, numbering at this time more than seventy-five rooms.

Grammar Schools. — At the beginning of the year 1873 a fine piano was provided, at the city's expense, for each of the Grammar Schools. Such an instrument had been long needed as an essential piece of apparatus in the teaching of music; and it has proved, as it was hoped it would, a great assistance to the Singing Master, and a source of profit and enjoyment to the children as well.

Owing to the alterations in the schoolhouses from time to time, whereby the number of class-rooms was greatly increased, it became at first difficult, then impossible, for me to give regular weekly lessons to all the classes. It was evident, moreover, that the scholars, who in the Primary Schools had had daily instruction in music, were in danger of losing very much of what they had learned there, unless a similar course were pursued with them on entering the Grammar Schools. These considerations led the Music Committee to suggest that singing should be taught in the Fourth, Fifth, and Sixth Classes by their own teachers, under the direction of the Singing Master, as was already the case in the Primary Schools. An amendment to the School Regulations was therefore adopted in April, 1874, and music charts, with the accompanying books, were ordered

to be introduced at the same time. One set of the charts was forthwith furnished to each room of the above-mentioned classes, and the books (Mason's "Intermediate Reader") were put into the hands of the scholars for the remaining three classes. The following is the course of study which the teachers in the lower classes are now at work upon,— a course which, if faithfully carried out, will lead, it is hoped, to valuable results.

COURSE OF STUDY IN THE GRAMMAR SCHOOLS.

Sixth Class.

As soon as practicable at the beginning of the school year, ascertain how many of the scholars can sing the scale correctly.

Sing the scale every day.

Practise skips of the scale, so that the scholars can take any interval from G, third space below, to G, first space above the staff.

Teach beating time in double, triple, and quadruple measures.

Write exercises frequently (key of C), using notes and rests of various kinds, to give the children experience in reading music.

Teach the first twenty pages of the Music Charts, Second Series, the scholars beating time as they sing.

See General Directions.

Fifth Class.

Sing the scale every day, and practise skips of the scale, as in the Sixth Class, learning in addition the sounds *sharp four*, *sharp five*, and *flat seven*.

Review the first twenty pages of the Charts, and learn the next ten pages.

Write exercises frequently in the key of C, and of G, using notes and rests of various kinds.

The scholars are to beat time constantly when singing.

Each scholar should be able to repeat the letters of the keys in which he sings.

See General Directions.

Fourth Class.

Sing the scale and practise skips, as in the Fifth Class.

Review the first thirty pages of the Charts, and learn the remaining ten pages.

Write exercises frequently, as in the Fifth Class, using in addition the keys of D, of F, and of B flat.

Each scholar should be able to repeat the letters of the keys in which he sings.

See General Directions.

General Directions.

Songs, other than those upon the Charts, may be learned at the discretion of the teacher.

The boys should be taught to sing their part separately from the girls, as well as together with them.

The "Elements of Music" are to be used in learning the definitions of the various musical characters as they occur.

When the class is promoted, the teacher should be able to state how many of the scholars can sing the scale correctly.

Fifteen minutes are to be spent every day in the study and practice of music.

In order to supply material of a different character from that contained in the Charts or Readers, a set of little books, called "Graded Exercises in Singing," by Mr. H. G. Carey, was obtained for these schools in February of last year. These books are owned by the city, and are to be used by scholars in any class, as occasion may require. They are particularly intended for drill in reading music.

The above is a brief sketch of what has been done in music during the last few years, and what is now doing.

I may add, what is now universally admitted among singing masters, that the best results in the teaching of music are not confined to those schools in which the teachers are skilful musicians, but are often found in those rooms where the instructors make little or no claim to such accomplishment.

N. Lincoln.

EVENING SCHOOLS.

These schools have been more fully attended this season than at any previous time. Last winter there were 478 scholars, this winter 770, an increase of 292. The average attendance, however, has been only 366, or less than 50 per cent of the whole number registered.

Many persons join these schools evidently with no definite object in view, unless it be to secure a place of resort when other places fail to attract them; hence the percentage of attendance does not fairly indicate the interest manifested in the schools by the majority of the pupils.

Evening schools are no longer an experiment. They have been maintained for eight years, and have now become a part of the school system. Is it not time, then, to establish regulations for their management? These regulations should of course be adapted to the special character of the schools. They should not be so stringent as to discourage any persons from entering who wish to do so as an experiment, or even from mere curiosity; for many of these may become interested and remain as regular pupils; but on the other hand, the rules should be stringent enough to prevent the ends for which the schools were established from being defeated. The aim was to give regular instruction to a class of pupils who have not had the advantages of a common-school training in their early years, and whose occupations would now prevent their attending the day schools, even if their age did not. All such persons should be encouraged to come to the evening schools; but after they have found out what the course of instruction is, they should make up their minds whether they are likely to profit by it or not, and then should either enroll themselves as regular pupils or leave the school. If they decide to remain, they should be required to attend as regularly as their circumstances will permit, and should be subject to such other rules as may be laid down for them. Those who would object to reasonable rules, made for the best interests of all concerned, are not likely to derive much benefit from the school under any circumstances. Those who really desire to learn will appreciate the necessity for the rules, and will cheerfully conform to them. It is only in this way that these schools can become capable of doing efficiently what they are designed to do. At present the irregular attendance is the most serious obstacle to their success, for it renders anything like systematic instruction impossible. After making all due allowance for the peculiar character of the schools, I can see no excuse for having the average attendance less than 70 per cent of the whole number belonging to the schools. I commend the subject to the consideration of the Board before the opening of the schools another winter.

SCHOOL ACCOMMODATIONS.

At the beginning of the year the City Council was asked to appropriate for new schoolhouses and alterations an amount of money sufficient to complete the Agassiz Schoolhouse and to enlarge or alter certain other school-buildings. The whole subject of school accommodations was considered in the most candid manner by the Finance Committee of the City Council, and the importance of the desired improvements fully recognized. It was felt, however, that whatever could be postponed without serious detriment to the interests of the schools should be deferred to "better times." The committee, therefore, recommended appropriations only for the completion of the new schoolhouse, which was under contract, and for the remodelling of the Thorndike Building.

The Agassiz Schoolhouse is pleasantly situated at the corner of Oxford and Sacramento Streets. The lot contains about 20,000 feet of land, which cost a little less than $8,000. The building is of brick, with granite and freestone trimmings, two stories in height, exclusive of the basement and the unfinished attic. Its dimensions are 52 feet by 80 feet, not including the central projections in the front and rear, which are 3 feet by 32 feet broad. The stories are 14 feet high in the clear. The first story contains four school-rooms, 25 by 27 feet, four dressing-rooms, 5 by 20, and a hall or entry, 16 by 22½, exclusive of the stairway. Sittings for 42 pupils are provided in each room. The second story is like the first, except that the part occupied by the Training School is divided into a large room 27 by 34½, and a class-room 14½ by 27. There is also a teacher's room for the principal of the school, and convenient closets are provided for all the rooms.

Mr. J. H. Littlefield, of Cambridge, was the architect, and under his supervision the house was erected at a cost, in round numbers, of $25,000.

The building was occupied Sept. 27 by the Training School, and by the primary classes which form the practice school.

Would not the plans of this building, with a description of

the work of the school, be an appropriate part of the contribution of Cambridge to the exhibition at Philadelphia? The name of the school would make this contribution one of special interest.

The Thorndike Schoolhouse was constructed on the old plan of large school-rooms and small class-rooms. It is now arranged on the single-room system, having twelve single rooms instead of six double rooms as formerly. It was evidently the purpose of the Committee on Public Property, who had charge of the alterations, to make the building a first-class schoolhouse. What is known as the Mihan system of ventilation was introduced; arrangements were made for heating the halls as well as the school-rooms; double desks were altered to single desks; new furniture was supplied where needed; in fact, everything was done that could add to the convenience or comfort of either teachers or pupils.

In addition to the supervision by the architect employed, the master of the school devoted his whole vacation to the oversight of the work. Were the building a little larger, and provided with a hall for general exercises, it would be a model schoolhouse.

How to obtain additional accommodations for the High School has been a question at different times during the past four years. First, the large hall was sacrificed to secure the needed accommodation; then part of the basement was taken. The question, however, still returned to claim the attention of the Committee. At the meeting of the Board in November, 1874, the Chairman of the High School Committee offered the following resolutions: —

"*Resolved*, That in view of the present crowded condition of the High-School building, and of the expected increase of the school with the growth of the city, it is advisable that immediate steps be taken for the division of the school into Classical and English Departments, and for the removal of the Classical Department to a suitable building to be erected in Ward One.

"*Resolved*, That the Committee on Schoolhouses and Estimates be directed to include the sum necessary for the erection of the proposed building in their estimate for the next municipal year."

But notwithstanding the adoption of the resolutions, the new Committee on Schoolhouses and Estimates did not include in their estimate the sum necessary for the proposed building, but recommended an appropriation for the enlargement of the present building. This was done under the impression that the resolutions were adopted on the assumption that the present house could not be enlarged, and still be convenient in arrangement, without great expense, and the sacrifice of its present pleasing appearance. In the main this opinion was correct. No plan for enlargement was entirely satisfactory that did not contemplate the remodelling of the building; but still it was an open question whether even the large expenditure necessary to remodel the building would not be true economy to the city. No additional land would be required, for by the wise forethought of a former city government the present school lot is of ample size for a building twice as large as now stands upon it. Land for a new building in a suitable location would cost at least one third as much as the whole amount required to enlarge and change the present house so as to accommodate the school, undivided, for many years to come. The division of the school, moreover, would necessitate an additional yearly expense in conducting it. More teachers would be required for the same number of pupils, another janitor would be needed, also additional apparatus and books of reference; in fact, whatever was in general use in one school would be needed in the other. While good reasons can be given for a division of the school, either by separating the English and Classical Departments or by separating the sexes, there are advantages beyond the consideration of expense in keeping the school as a unit. In a large school, teachers can be selected with reference to their special qualification for a particular department, thereby securing the best instruction for every class.

The appropriation asked for at the beginning of the year was not granted; but with the view of obtaining definite information as to the best way of enlarging the building, also as to the cost of the work, the Board, in April, passed the following order: "That the City Council be requested to ascertain if it is practicable to enlarge the present High Schoolhouse, in order to

accommodate an increased number of scholars." The City Council, after giving a hearing to the School Board, referred the order to the Committee on Public Property. That committee not only carefully considered the subject themselves, but sought the opinion of men eminently qualified to judge in such matters. It was decided that the most feasible plan for the enlargement was to extend the main building in the rear. In accordance with this view, plans were drawn and altered till they received the general approval of the School Committee, the teachers of the High School, and many others interested in having the building complete in all its arrangements. When the City Council was requested to consider the practicability of the enlargement of the house, it was fully expected that in September additional room would be required. The increase in numbers, however, was not so large as usual, and the whole school has been accommodated in the present building. Better accommodations are desirable for the school even now; but considering the importance of the most rigid economy for the present in every department of municipal expenditure, it is probably advisable to defer the work till the need becomes more imperative or the times more favorable.

Additional accommodations for Primary Schools will soon be needed in Ward Three. Even during the past year a petition was sent to the City Council for a new building, to be located in the vicinity of the lower part of Spring Street. A new building was asked for, notwithstanding there is an unfinished story in the Gore Schoolhouse. The petitioners maintained that small children should not be obliged to cross a crowded thoroughfare like Cambridge Street; also, that the third story of a building, especially one surrounded by wooden houses, was not a safe place for them. No one will question the correctness of these views, nor deny that a new house would be for the best interests of the schools; but the unfinished story of the Gore building is an obstacle in the way of obtaining a new house, and will continue to be until it is finished and occupied. As a temporary arrangement, the lower classes of the Putnam Grammar School might be removed, under the charge of a sub-master, to the Gore building, and the younger primary-school children

might be accommodated in the Putnam Schoolhouse. There are objections, it is true, to separating the classes of a Grammar School, but there are advantages, also, in having a male teacher in charge of the Gore School. This plan would meet the wants of the district for three or four years, and by that time a new building would be a necessity.

No report on schoolhouses would be complete without the usual reference to the Old High Schoolhouse on Amory Street, and the Bridge Schoolhouse at the Lower Port. Persons familiar with the condition of these houses will certainly not deny that there are two sections of our City that do not insist upon their rights though these rights have been long withheld.

I pass the subjects of heating and ventilation, as a special committee has been appointed on the sanitary condition of our schools.

With the following tables of statistics I respectfully submit this, my first Annual Report, expressing at the same time my gratitude for the confidence of the School Committee, and for the kindness with which they, and all others with whom I have been brought into official relations, have aided and encouraged me in my work.

FRANCIS COGSWELL,

Superintendent of Public Schools.

SUMMARY OF STATISTICS

FOR THE SCHOOL-YEAR ENDING DEC. 31, 1875.

I. POPULATION.

Population of Cambridge by State census for 1875	47,838
Number of children in the city between five and fifteen years of age, May 1, 1875	8,128

II. SCHOOLS.

1 High School.	1 Training School.
7 Grammar Schools.	6 Evening Schools.
19 Primary Schools.	2 Evening Drawing Schools.

Whole number of Day and Evening Schools	36

III. SCHOOLHOUSES.

For the High School	1
For the Grammar Schools	7
For the Primary Schools, including Training School	18

IV. TEACHERS.

Number of teachers in High School	12
Male teachers, 5; female teachers, 7.	
Number of teachers in Grammar Schools	88
Male teachers, 7; female teachers, 81.	
Number of teachers in Primary Schools, including principal of Training School	83
Number of teachers in Evening Schools	49
Male teachers, 6; female teachers, 43.	
Number of teachers in Evening Drawing Schools	2
Whole number of teachers in Day Schools, including teacher of Music,	184

V. PUPILS.

Whole number of pupils registered in the Day Schools during the year,	9,411
Average whole number of pupils belonging to the Day Schools during the year	7,167
Average daily attendance of pupils in all the Day Schools	6,527
Average per cent of attendance in all the Day Schools	91
Average whole number of pupils belonging to the High School	376
Average daily attendance in High School	359
Per cent of attendance in High School	95.5
Average whole number of pupils belonging to Grammar Schools	3,296
Average daily attendance of pupils in Grammar Schools	3,034
Per cent of attendance in Grammar Schools	92
Average whole number of pupils belonging to Primary Schools	3,477
Average daily attendance in Primary Schools	3,116
Per cent of attendance in Primary Schools	89.6

Average attendance in Evening Schools	366
Average attendance in Evening Drawing Schools	104
Number of pupils graduated from Primary Schools, July, 1875	782
Number of pupils admitted to Grammar Schools, July, 1875	708
Number of pupils graduated from Grammar Schools	186
Number of pupils admitted to High School	148
Number of pupils graduated from High School	47
Whole number of Private Schools	14
Number of pupils in Private Schools	858

VI. FINANCES.

Assessed value of real and personal estate, May, 1875	$66,623,014 00
Cost of instruction in the Public Schools	159.524 25
Care and repairs of schoolhouses	47,508 93
Amount expended for new schoolhouses and alterations	44,111 99
For Evening Schools, including amount for Evening Drawing Schools	5,862 44
Amount of the salaries of Truant Officers	5,500 00
Incidental expenses for school purposes	427 54
Total expenditures for all school purposes	262,935 15
Deducting the receipts from the Hopkins Fund ($958.93), actual expenses for school purposes	261,976 22

SCHOOL CENSUS.

The Statutes require that "The School Committee shall annually, in the month of May, ascertain, or cause to be ascertained, the names and ages of all persons belonging to their respective towns and cities on the first day of May, between the ages of five and fifteen years, and make a record thereof."

The following is a summary of the returns made by the officers appointed to ascertain the required facts: —

	Ward I.	Ward II.	Ward III.	Ward IV.	Ward V.	Total.
No. of children, May 1, between 5 and 15 years of age	1,285	2,354	1,731	1,797	961	8,128
No. in public schools, May 1, between 5 and 15 years of age	945	1,951	1,462	1,532	748	6,638
No. in private schools, May 1, between 5 and 15 years of age	146	145	29	52	54	426
No. not attending school, May 1, between 5 and 15 years of age	194	258	240	213	159	1,064
No. not attending school, May 1, between 5 and 8 years of age	146	188	126	122	75	657
No. not attending school, May 1, between 8 and 13 years of age	25	20	27	41	29	142
No. not attending school, May 1, between 13 and 15 years of age	23	50	87	50	55	265

ORDINANCES PASSED IN 1875.

AN ORDINANCE IN AMENDMENT OF THE ORDINANCE IN RELATION TO DEEDS.

CHAPTER VII of the Revised Ordinances is hereby amended by adding thereto the following: —

SECTION 3. Whenever the owner of any land sold to the city for the non-payment of assessments for the construction of sewers or sidewalks, for filling lands to grade under the Low Land Acts, or for benefits caused by the laying out, altering, widening, grading, or discontinuing of a street under the Betterment Act, shall, within two years from the day of the sale, pay to the City Treasurer the sum for which the land was sold to the city, with ten per centum interest thereon, and all necessary intervening charges, the City Treasurer shall certify the same to the Mayor, who shall thereupon, on behalf of the city, execute, acknowledge, and deliver such a deed as may be necessary to release whatever interest the city acquires by the sale.

[*Adopted March* 3, 1875.]

AN ORDINANCE IN AMENDMENT OF THE ORDINANCE IN RELATION TO STREETS.

SECT. 26 of Chapter XXV is hereby amended by striking out all after the word "therefrom" in the ninth line, and inserting in place thereof, the words "within twenty-four hours after the snow should cease to fall; and any ice which encumbers such sidewalk, or any part thereof, to be removed, or covered with sand or other suitable substance, so as to make such sidewalk safe and convenient; and if he fails to do so, he shall forfeit and pay a sum not less than two dollars nor more than twenty dollars."

[*Adopted Feb.* 10, 1875.]

AN ORDINANCE IN RELATION TO SEWERS.

SECT. 1. All sewers and drains laid by private parties in any street, court, or way, opened or proposed to be opened for public travel and accommodation, shall be deemed to be the property of the city when con-

nected with a public sewer; and no such connection shall hereafter be made with a public sewer except upon consent of the Mayor and Aldermen, nor unless it be of such size, material, construction, and depth, and in such location as the City Engineer may direct, so far as it is within the lines of such street, court, or way, nor until the owners thereof shall in writing relinquish to the city exclusive control over the same.

SECT. 2. Whenever any street shall be opened for the laying of pipes for water, gas, or other purposes, or for the prosecution of any works of construction, said laying of pipes and the work connected therewith, or such work of construction, shall be executed in such a manner as not to obstruct, in any way whatever, the course, capacity, or construction of a common sewer or drain; and whenever pipes for any purpose, or any work of construction shall hereafter be found to exist at such a depth, or in such location as to interfere with any existing sewer, or with the building of any common sewer of the required size, and at the proper depth and grades, the department, corporation, company, or individual, as the case may be, maintaining the same, shall, upon notice thereof, at once remove, change, and alter said pipe or pipes or other works, in such manner as the City Engineer may direct. If such department, corporation, company, or individual neglects to immediately comply with the terms of such notification, then the City Engineer may make such removal, change, or alteration, and the cost thereof shall be paid by such corporation, company, or individual.

SECT. 3. The City Engineer shall, under the direction of the Committee on Sewers and Drains, take the general superintendence of all main drains and common sewers built or permitted to be built or owned by the city, and of all connections built under provisions of this Ordinance, and take charge of the building, repairs, and keeping in order of the same.

SECT. 4. He shall make and file in his office accurate plans of all sewers and main drains, showing all entrances thereto when made as hereinafter provided. He shall have constant care of, and keep clean and in every way in proper order, condition, and repair, all street catch-basins and main drains or connecting drains within the limits of any street, court, or way; provided, however, that the Superintendent of Streets shall keep the cesspools open and clear of ice in cold weather, so as to permit of the flow of surface water through them and thence into the sewers.

SECT. 5. He shall keep and submit to the Mayor and Aldermen an accurate account of the expenses of constructing each main or common drain, together with a plan in detail thereof, showing all estates abutting thereon, or deriving benefit therefrom, with their frontages, areas, and owners' names; or in such manner as to conform fully to the principle upon which estates are to be assessed by the Board of Mayor and Aldermen for the time being.

He shall keep, and, whenever requested, report to either branch of the City Council an accurate account of the cost and all other expenses upon each common sewer or main drain; and he shall annually, in December,

submit a report of all work performed and the amount of all expenditures from the Appropriation for Sewers and Drains.

SECT. 6. In the month of January of each year, and at other times whenever necessary, the Committee on Sewers and Drains shall license not less than five competent drain layers in each ward of the city (provided such number shall apply for licenses), who alone shall be authorized to make all openings or excavations in any street or highway for the purpose of constructing or repairing any private drains, and who shall construct all entrances into the main drains and sewers. Such persons shall hold office for one year unless sooner removed by said committee. No such private drain shall be laid of a less size than six inches interior diameter, and the work shall be done as directed by the City Engineer.

SECT. 7. Every person licensed as provided in the preceding section shall, before performing any work authorized thereby, execute a bond to the city in the sum of Five Hundred Dollars, with two good and sufficient sureties, to be approved by the Committee on Sewers and Drains, conditioned that he shall comply with the terms of the permit under which entrance is made; that he shall cause the excavation to be properly fenced during the whole time the street may be obstructed; that he will, when necessary, maintain one or more lighted lanterns in a conspicuous place over such obstruction from twilight in the evening and through the whole night; that he will properly make all entrances to the sewers. and will leave no obstruction of any description in the sewer which he may open; that he will properly close the excavation, restore the earth and pavement taken up, and regrade and repave the street should it settle or become out of order through any negligence of his within six months thereafter; and if he fails to do so within forty-eight hours after being notified thereof in writing by the City Engineer, then it shall be regraded and repaved by the city at his expense; and that he will indemnify and hold harmless the city from any damage or cost to which it may be put by reason of injuries resulting to any one from neglect or carelessness in making or repairing such drain, or in properly fencing or lighting any excavation or obstruction, or in performing any other work connected therewith.

SECT. 8. No private drain shall be entered into any main drain or sewer without a permit in writing from the City Engineer, stating the time, place, manner, and construction of such entrance; and on the completion of the work the permit shall be returned to the office of the City Engineer, indorsed by the layer of the drain with a statement of his proceedings thereunder.

SECT. 9. No private drain shall be connected with a public sewer except through an intervening catch-basin of brick, the bottom of which must not be less than two and one half feet below the bottom of the outlet pipe, the diameter not less than four feet, and the form and construction to be prescribed by the City Engineer; and the discharge pipe of the catch-basin shall be high enough above its bottom to prevent anything but the liquid contents passing into the sewer.

SECT. 10. Private catch-basins may be placed under the sidewalk, when, in the opinion of the City Engineer, it may be necessary, — the same to be covered with an iron cover set in a stone curb, — and shall be examined and cleaned of their solid contents by or at the expense of the owners thereof as often as once a year, and as much oftener as necessary to prevent the discharge of any solid matter into the drain or sewer.

SECT. 11. No drain connecting with a common sewer, subject to the action of the tide water, shall be constructed without a plug or clapper to completely prevent the reflux of drainage matter, storm or tide waters.

SECT. 12. All drains and catch-basins not now built in accordance with the requirements herein shall be reconstructed so as to conform thereto, whenever, in the opinion of the Committee on Sewers and Drains, it may be necessary.

SECT. 13. No exhaust from steam engines shall be connected with the public or private drains, and no blow-off from steam boilers shall be so connected without special permission of the Mayor and Aldermen.

SECT. 14. Whoever shall cut into, interfere with, or obstruct a main drain or common sewer, or shall enter a private drain therein, except as herein provided, or shall place or deposit in any street catch-basin any animal or vegetable matter, solid or liquid, or any other filthy substance, or shall violate any of the provisions of this ordinance, shall upon conviction pay a fine of not more than twenty dollars for each offence.

SECT. 15. The twenty-third chapter of the Revised Ordinances and all amendments thereto are hereby repealed.

[*Adopted May* 26, 1875.]

AN ORDINANCE AMENDING CHAPTER I OF THE REVISED ORDINANCES.

SECT. 1. The Committee on Accounts shall not allow and pass any bill coming from any Committee or any Board (other than the Board of Aldermen) unless said bill bears the written signatures of a majority of the members of such Board or Committee.

SECT. 2. All Ordinances inconsistent with this Ordinance are hereby repealed.

[*Adopted Sept.* 30, 1875.]

AN ORDINANCE IN RELATION TO COLLECTION OF JUNK AND OTHER ARTICLES.

Chap. XIV of the Revised Ordinances is hereby amended by striking out the second section thereof, as heretofore amended, and inserting in its place the following: —

SECT. 2. No person shall, without a license from the Mayor and Aldermen, collect or deal in junk, old metals, rags, grease, bones, or sec-

ond-hand articles; and no person thus licensed shall, directly or indirectly, either purchase or receive, by way of exchange or barter, any of said articles of any minor, knowing or having reason to believe him to be such. Every person receiving such a license shall pay for the same, to the use of the city of Cambridge, a fee of $5 before the delivery thereof to him, and no license shall be transferable.

Every vehicle used in the collection of junk, old metals, rags, grease, bones, or second-hand articles, shall be at all times subject to the inspection of the Mayor and Aldermen, or of any person by them authorized, and shall have the name of the owner and the number of his license placed upon the outside of each side thereof, in plain, legible words and figures of not less than one and one half inches in length, and so that the same may be distinctly seen.

[*Adopted Oct.* 6, 1875.]

AN ORDINANCE REGULATING THE MATTER OF CARRIAGE-HIRE BY THE CITY COUNCIL OR COMMITTEES THEREOF.

No carriages shall be furnished at the expense of the city, except upon an order therefor, signed by the Mayor, the President of the Common Council, or the acting chairman of any committee of either Board of the City Council; said order to state the purpose for which the carriages were required, and to accompany the bill therefor as a voucher.

[*Adopted Nov.* 24, 1875.]

AN ORDINANCE IN AMENDMENT OF AN ORDINANCE IN RELATION TO SEWERS.

Sect. 9 of the Ordinance in relation to Sewers is hereby amended by striking out the words "not less than four feet" in the fourth and fifth lines thereof, and inserting in place thereof the words "of suitable size to drain the premises."

[*Adopted Dec.* 8, 1875.]

AN ORDINANCE IN AMENDMENT OF AN ORDINANCE AMENDING CHAPTER I OF THE REVISED ORDINANCES.

Sect. 1 of an Ordinance amending Chap. 1 of the Revised Ordinances is hereby amended by inserting after the word "Aldermen," in the third line thereof, the words "and School Committee."

[*Adopted Dec.* 8, 1875.]

AN ORDINANCE IN RELATION TO RATES FOR WATER USED FOR FIRE HYDRANTS AND FOR WATERING STREETS; BEING IN AMENDMENT OF CHAP. XXIX OF THE REVISED ORDINANCES.

Sect. 24 of Chap. XXIX of the Revised Ordinances is hereby amended by adding after the word "works" in the last line thereof, the words "for water used for the extinguishment of fires the rate shall be, for each hydrant eleven dollars per annum. For watering streets, one cent and a half for each hundred gallons."

[*Adopted Dec.* 22, 1875.]

AN ORDINANCE IN RELATION TO SINKING FUNDS.

SECT. 1. There shall be a Board of Commissioners on the Sinking Funds of the city, which shall have control of all funds created for the payment or redemption of the city debt, except those pertaining to the Water Loan.

SECT. 2. Said Board shall consist of six persons chosen by concurrent vote of the City Council, to be first acted upon by the Mayor and Aldermen, two of whom shall hold office for one year, two for two years, and two for three years from the first Wednesday of May, 1876. Said Commissioners shall be elected in April, 1876, and annually thereafter in April two members of said Board shall be so chosen to hold office for three years from the first Wednesday of May following their election. No member of the City Council shall be a member of said Board of Commissioners.

SECT. 3. All loans for public buildings and lands therefor, for constructing and improving bridges, for taking, raising, and improving low lands, for laying out and paving streets, purchasing public lands and widening streets, shall be negotiated for ten years. All loans for constructing sewers and drains shall be negotiated for twenty years. Bonds issued for such loans shall bear upon the face the purpose for which they were issued, and be dated the first day of either January, April, July, or October, of the year they are issued.

SECT. 4. For sinking funds to redeem at maturity such several loans of the city authorized since March 20, 1872, there shall be annually appropriated and raised by taxation, on account of loans made for ten years, a sum equal to eight per cent thereof; on account of loans made for twenty years, a sum equal to three per cent thereof; and on account of outstanding loans made for thirty years, a sum equal to one and one half per cent thereof; and for a sinking fund to redeem the funded debt of the city created prior to March 20, 1872, excluding the Water Loan, there shall be annually appropriated and raised by taxation the sum of $10,000; and all amounts so raised by taxation shall annually, on the thirtieth day of November, be paid by the City Treasurer to said Board.

SECT. 5. The Board shall, at the close of each financial year, certify

to the Auditor of Accounts the amounts hereunder required to be raised by taxation for the several funds, which amounts shall be put into the yearly appropriation the next succeeding year, and shall invest all sums paid to it under Sect. 4, with their accumulations, in the manner provided by the 209th chapter of the Acts of 1875. The bonds of the city thus acquired shall remain as a part of the assets of the several specific funds with which they were purchased; but if it appears to the Board that any sinking fund will be more than sufficient to redeem at maturity the loan for which it was created, the Board may, in its discretion, discontinue further taxation on account thereof for such time as it may deem expedient. In purchasing bonds of the city, those issued for the shortest time shall, as far as practicable, be purchased.

SECT. 6. Bonds of the city of Cambridge, so purchased, shall have written or stamped upon the face thereof the words, "A part of the Sinking Funds of the city of Cambridge, and not negotiable."

SECT. 7. When a debt to be paid from a sinking fund becomes due, the Board shall furnish the City Treasurer, from the funds in its care for such payment, the sum required, or so much as is to the credit of such debt, taking his receipt therefor.

SECT. 8. The Board shall annually, in December, report to the City Council the exact condition of the several funds under its control to the first day of said month.

SECT. 9. The Board shall keep a full record of its doings in a book for the purpose, which record shall be at all times open to the inspection of each Board of the City Council.

SECT. 10. This ordinance shall take effect upon its passage, except so much as relates to the election of commissioners; and the ordinance entitled "An ordinance in addition to the ordinance relating to accounts and finance," passed March 20, 1872, is hereby repealed.

[*Adopted Dec.* 22, 1875.]

AN ORDINANCE IN RELATION TO SINKING FUNDS.

SECTION 1. The ordinance in relation to Sinking Funds, adopted Dec. 22, 1875, is hereby amended, so that the election of commissioners in the year 1876 shall take place on the first Monday of January, 1876, instead of in April in that year; and the commissioners then elected shall hold office for one, two, or three years, respectively, from the time of their election, and until others are elected in their stead, as provided in the second section of said ordinance.

SECT. 2. Said ordinance is further amended by striking out the word "since" in the second line of the fourth section, and inserting the word "after" in place thereof.

SECT. 3. Said ordinance is further amended by striking out in the tenth section thereof the words "except so much as relates to the election of commissioners."

[*Adopted Dec.* 29, 1875.]

GOVERNMENT

OF

THE CITY OF CAMBRIDGE,

1876.

MAYOR.

HON. ISAAC BRADFORD.

ALDERMEN.

LEANDER GREELY.
GEORGE H. HOWARD.
JOHN H. LEIGHTON.
SAMUEL L. MONTAGUE.
GEORGE F. PIPER.
EDMUND REARDON.
SULVILYER H. SANBORN.
WALTER S. SWAN.
DANIEL H. THURSTON.
WILLIAM WRIGHT.

ALDERMEN, BY WARDS.

Ward I. Aldermen Swan and Wright.
Ward II. Aldermen Montague and Thurston.
Ward III. Aldermen Howard and Leighton.
Ward IV. Aldermen Greely, Reardon, and Sanborn.
Ward V. Alderman Piper.

CLERK.

JUSTIN A. JACOBS.

COMMON COUNCIL.

FRANK A. ALLEN, *President.*

Ward I.

JOSEPH H. BANCROFT.
ARCHIBALD M. HOWE.
CHARLES MOORE.
WILLIAM POLAND.

Ward II.

HENRY D. FORBES.
ISAAC A. NAY.
PEREZ G. PORTER.
SILAS RHOADES.
BENJAMIN R. TILTON.

Ward III.

KNOWLTON S. CHAFFEE.
JOHN CLARY.
JAMES F. DAVLIN.
WILLIAM E. DOYLE.
DANIEL B. SHAUGHNESSEY.

Ward IV.

FRANK A. ALLEN.
BENJAMIN DOW.
GEORGE W. RAWSON.
SEYMOUR B. SNOW.

Ward V.

JEREMIAH MURPHY.
GEORGE F. WHITING.

CLERK.

J. WARREN COTTON.

PAGE.

ALLAN P. KELLY.

CITY CLERK.

JUSTIN A. JACOBS.

CITY MESSENGER.

FRANCIS L. PRATT.

COMMITTEES OF THE CITY COUNCIL.

JOINT STANDING COMMITTEES.

ON FINANCE.

	Common Council.
The MAYOR.	The President.
	Knowlton S. Chaffee.
	Seymour B. Snow.
Aldermen.	Perez G. Porter.
William Wright.	Joseph H. Bancroft.
Samuel L. Montague.	George F. Whiting.

ON PUBLIC INSTRUCTION.

Aldermen.	Common Council.
Walter S. Swan.	The President.
Sulvilyer H. Sanborn.	Henry D. Forbes.
	Archibald M. Howe.
	Daniel B. Shaughnessey.

ON ORDINANCES.

Aldermen.	Common Council.
George F. Piper.	Henry D. Forbes.
Leander Greely.	Knowlton S. Chaffee.
	Archibald M. Howe.

ON ACCOUNTS.

Aldermen.	Common Council.
Edmund Reardon.	John Clary.
George H. Howard.	Isaac A. Nay.
	Perez G. Porter.

ON PUBLIC PROPERTY.

Aldermen.	Common Council.
Samuel L. Montague.	John Clary.
Walter S. Swan.	Jeremiah Murphy.
	Seymour B. Snow.

ON THE ALMSHOUSE.

Aldermen.	Common Council.
Daniel H. Thurston.	Benjamin R. Tilton.
Walter S. Swan.	Daniel B. Shaughnessey.
	George W. Rawson.

ON ROADS AND BRIDGES.

Aldermen.	Common Council.
William Wright.	Jeremiah Murphy.
Edmund Reardon.	William E. Doyle.
	Silas Rhoades.

ON FUEL.

Aldermen.	Common Council.
John H. Leighton.	Perez G. Porter.
Sulvilyer H. Sanborn.	William Poland.
	Silas Rhoades.

ON LAMPS.

Aldermen.	Common Council.
Daniel H. Thurston.	Charles Moore.
Edmund Reardon.	James F. Davlin.
	Benjamin R. Tilton.

ON WATERING STREETS.

Aldermen.	Common Council.
George H. Howard.	George W. Rawson.
Leander Greely.	Charles Moore.
	Benjamin Dow.

ON PRINTING.

Alderman.	Common Council.
Sulvilyer H. Sanborn.	Joseph H. Bancroft.
	Daniel B. Shaughnessey.

ON THE FIRE DEPARTMENT.

Aldermen.	Common Council.
George H. Howard.	William E. Doyle.
Leander Greely.	William Poland.
	George F. Whiting.

ON CITY ENGINEERING.

Aldermen.	Common Council.
Edmund Reardon.	William Poland.
George F. Piper.	James F. Davlin.
	George W. Rawson.

ON ASSESSORS' DEPARTMENT.

Alderman.	Common Council.
Walter S. Swan.	Charles Moore.
	Benjamin R. Tilton.

JOINT SPECIAL COMMITTEE.

ON SOLDIERS AND THEIR FAMILIES.

Aldermen.	Common Council.
John H. Leighton.	Jeremiah Murphy.
Sulvilyer H. Sanborn.	Benjamin Dow.
	James F. Davlin.
	Joseph H. Bancroft.
	Isaac A. Nay.

Standing Committees of the Board of Mayor and Aldermen.

ON POLICE.

The Mayor. Samuel L. Montague.
John H. Leighton. George F. Piper.

ON THE FIRE DEPARTMENT.

George H. Howard. Leander Greely.
George F. Piper.

ON ROADS AND BRIDGES.

William Wright. Edmund Reardon.
John H. Leighton.

ON SEWERS AND DRAINS.

Leander Greely. John H. Leighton.
Daniel H. Thurston.

ON LICENSES.

George F. Piper. Sulvilyer H. Sanborn.
George H. Howard.

ON HEALTH.

John H. Leighton. Daniel H. Thurston.
William Wright.

ON BONDS.

Daniel H. Thurston. John H. Leighton.
William Wright.

Standing Committees of the Common Council.

ON ELECTIONS AND RETURNS.

Seymour B. Snow. George F. Whiting.
Isaac A. Nay.

ON BILLS IN THE SECOND READING.

John Clary. Benjamin Dow.
Silas Rhoades.

ON ENROLLED ORDINANCES.

Henry D. Forbes. Archibald M. Howe.
William E. Doyle.

Clerk of Committees.

J. Warren Cotton.

Board of Health.

THE MAYOR AND ALDERMEN.

Health Officers.

George H. Copeland.
Timothy Ames.
Warner W. Simonds.
Andrew G. Smith.
Benjamin F. Bridden.
Amos Jones.
Leonard Shackford.
Thomas D. Cook.

Surveyors of Highways.

The same persons who compose the Board of Mayor and Aldermen.

Auditor of Accounts.

Justin A. Jacobs.

Treasurer.

Joseph Whitney.

Assessors.

Artemas Z. Brown. Andrew J. Green.
Levi L. Cushing, Jr.

Assistant Assessors.

Thomas Stearns. George L. Mitchell.
John S. Pollard. Benjamin F. Nourse.
Reuben A. Adams.

School Committee.

Isaac Bradford, Mayor, *ex officio*, *Chairman*.

Ward I.

Edwin B. Hale. John L. Hildreth.
Andrew P. Peabody.

Ward II.

Edward R. Cogswell. Henry Hinckley.
James H. Hall.

Ward III.

John O'Brien. Albert L. Norris.
George R. Brine.

Ward IV.

James A. Dow. George R. Leavitt.
Asa P. Morse.

Ward V.

Philip R. Ammidon. Theophilus G. Wadman.
William S. Apsey.

Secretary.

W. W. Wellington.

Superintendent of Schools.

Francis Cogswell.

Overseers of the Poor.

The Mayor, *ex officio*, *Chairman*.

One Year.	Two Years.
Sylvanus M. Parsons.	Benjamin F. Wyeth.
Joseph Newmarch.	George D. Chamberlain.
Lewis B. Guyer.	John W. Coveney.

Clerk.

Benjamin F. Wyeth.

Warden of the Almshouse.

William E. Hough.

Physician of the Almshouse.

James R. Morse, M. D.

Cambridge Cemetery.

Commissioners.

The Mayor, *ex officio.*

William Page.
George S. Saunders.
George T. Gale.
George R. Brine.
John M. Tyler.
Curtis Davis.

Superintendent.

James K. Farwell.

Trustees of Dana Library.

The Mayor, *ex officio*, *Chairman.*

Alderman.

George F. Piper.

Common Council.

Seymour B. Snow.

Citizens at Large.

Hersey B. Goodwin.
John B. Taylor.
John S. March.

Librarian.

Miss Almira L. Hayward.

Secretary.

John S. March.

Cambridge Water Board.

The Mayor, and President of the Common Council, *ex officio.*

J. Warren Merrill.
Chester W. Kingsley.
Henry L. Eustis.
George P. Carter (President).
Samuel Slocomb.

Clerk.

Justin A. Jacobs.

Superintendent of Water Works.

Samuel W. Dudley.

Water Registrar.

Abiel F. Fifield.

Trustees of Sinking Fund of Water Loan.

The Mayor, City Treasurer, and the President of the Common Council.

Commissioners on Sinking Funds of the City.

One Year.	Two Years.
Charles H. Saunders.	Walter S. Blanchard.
Robert Douglass.	Samuel Slocomb.

Three Years.

Joseph A. Holmes. John M. Tyler.

Trustees of the Sanders Temperance Fund.

The Mayor, and President of the Common Council, *ex officio*.

Alderman.	Common Council.
Samuel L. Montague.	John Clary.
	Henry D. Forbes.

Trustees of the Dowse Institute.

The Mayor, and President of the Common Council, *ex officio*.

John C. Dodge. William W. Wellington.

Willard A. Bullard.

Representatives in General Court.

Solomon S. Sleeper. Edward Kendall.

Leander M. Hannum. Austin C. Wellington.

Jeremiah W. Coveney.

Police Court.

Standing Justice.

John S. Ladd.

Special Justices.

Henry W. Muzzey. Woodward Emery.

Clerk.

Thomas McIntire.

City Solicitor.

John W. Hammond.

City Engineer.

William S. Barbour.

Commissioner on West Boston and Cragie's Bridges.

Ezra Parmenter.

Superintendent of Streets.

George L. Cade.

Superintendent of Lamps.

John Cahill.

Board of Engineers.

Chief Engineer.

Patrick H. Raymond.

Assistant Engineers.

First Assistant	Thomas J. Casey.
Second Assistant	Richard F. Tobin.
Third Assistant	Daniel O'Connell.
Fourth Assistant	John P. Farmer, Jr.

Clerk of the Board.

John P. Farmer, Jr.

Police Department.

Chief of Police.

George H. Copeland.

Captains of Police.

District I.

Timothy Ames.

District II.

William Twist.

District III.

John L. Boynton.

Captain of Night Police.

Frederick W. Hagar.

Policemen.

District I.

Thomas D. Cook.
James B. Morse.
Micah W. Cook.
Andrew Sproul.
Andrew G. Smith.
George A. Marston.
Benjamin Kennard.
L. J. Cloyes.
William T. Gibson.
James Miller.
Leonard Shackford.
Daniel Callahan.
William H. Fitzpatrick.
John Le Barron.
Frederic B. Pullen.
Albert D. Cleveland.
Henry M. Tyler.
Alonzo S. Harriman.
Thomas W. Penney.
William Evans, Jr.

Hugh McNamee.

District II.

Benjamin F. Bridden.
Daniel Sherman.
James H. Parks.
George Wood.
Warner W. Simonds.
John Coleman.
Calvin C. Smith.
Luther Hapgood.
Simon D. Hiscock.
Rufus S. Downe.
Thomas H. Lucy.
Charles B. Jones.
James E. Murray.
John Little.
Thomas S. Hall.
Charles W. Rugg.
William Nickelson.
Lawrence Ducy.
Michael A. Dalton.
James Daily.

James S. Alexander.

District III.

William Mullett.
Dennis Corcoran.
Moses W. Hooper.
John F. Murray.
Matthew R. Moore.
Amos Jones.
David N. McCleary.
Stephen E. Day.
John Collier.
Warren A. Eaton.
Otis Dennison.
John W. Skelley.
John Jackson.

Special Policemen.

P. H. Raymond.
Thomas J. Casey.
Joseph H. Marvin.
Samuel W. Dudley.
Daniel O'Connell.
John P. Farmer, Jr.
Thomas H. Eames.
Edward F. Belcher.
Roland Litchfield.
Charles L. Russell.
William L. Locklin.
G. C. W. Fuller.
J. L. P. Ackers.
Charles H. Wiggin.
B. A. Brown.
Lucius A. Buck.
James F. Jefferds.
Joseph W. Averill.
James C. Wilder.
Thomas McIntire.
James K. Farwell.
Hiram Nevons.
James M. Learned.
George Henderson.
George Dale.
Jesse H. Kittredge.
George Smith.
Charles P. Allen.
Samuel F. Hunt.
George J. Sutton.
Joseph Bebo.
Alexis Brusseau.
Anthony Chalifrau.
Patrick Dunnigan.
Moore R. Homer.
Thomas Briney.
George S. Pike.
William H. Grieves.
A. A. Barker.
G. E. S. Hutchins.
Joseph Moran.
Joshua S. Sanborn.
George W. Wright.
George W. Metcalf.
George Stott.
Charles A. True.
Joseph K. Tarbox.
John McGrath.
Walter E. Mellish.
Joseph Baker.
Thomas Langlan.
Jacob Foster.
Thomas J. Saunders.
George H. Sherman.
George E. Goodwin.
Francis M. Mason.
Mark J. Folsom.
Moses M. Child.
George S. Dudley.
Augustus P. Griffing.
William Porter.
Charles H. Stetson.
John Axtman.
James White.
James E. Rourke.
Matthew Caldwell.
Josiah C. Smith.
Benjamin McIlvaine.
William Hawkins.
James C. Singleton.

Thomas Cowan.
Noah M. Cofran.
John Mahady.
Alex. F. Shepherd.
William Hunnewell.
Daniel R. Melcher.
John Hughes.
Frank Goudraw.
Fred. H. Greenwood.
Frank J. Curtis.
Benjamin F. Livingstone.
Charles A. Gay.
James W. Lovering.
George B. Lothrop.
Orlando B. Richardson.
Richard F. Tobin.
Charles H. Winslow.
Joseph Collins.
E. G. Hall.
George T. Barrington.
Michael Ginty.
John L. Sproul.
Joseph Smith.
William Kelly.
E. F. Young.
George Putnam.
John Clark.
Gilman B. Garland.
C. W. Ash.
George D. Eaton, Jr.
Thomas Montgomery.
Frank E. Whitney.
Joseph A. Cheney.
Calvin M. Stetson.
Appleton Hubbard.
James O'Donnell.
Eli Goodrow.
Moses Dudley.
Patrick Corcoran.
Charles T. Seavey.
William E. Hough.
John Caffey.
J. A. Bacon.
Dennis Murphy.
Edward Patchett.
Henry L. Emerson.
Francis L. Pratt.
William H. McMenimen.
Benjamin Sargent.
William R. Blackman.
Timothy Ryan.
Thomas M. Howard.
Thomas C. Corcoran.

Keeper of Lock-ups.

George H. Copeland.

Truant Officers.

Mark J. Folsom.
Moses M. Child.
George S. Dudley.
Augustus P. Griffing.
Francis M. Mason.

Constables.

George H. Copeland.
William Twist.
John L. Boynton.
John C. Burdakin.
Thomas Work.
Thomas McIntire.
Michael Dechan.
Frederick A. Lull.
Thomas T. Ferguson.
Timothy Ames.
M. S. Busnach.
William Dickson.
Edward S. English.
W. A. Taylor.
Amos Jones.
George F. McKenzie.

Thomas I. Murphy.
Charles H. Hunnewell.
Charles J. Adams.
James F. Jefferds.
John W. Skelley.
Warner W. Simonds.
Thomas D. Cook.
Charles L. Russell.
Benjamin King.
Patrick H. Raymond.
E. B. Ramsdell.
Michael A. Keenan.
Reuben A. Adams.
George L. Mitchell.
Calvin Ford.
John Lennon.
Thomas J. Stevens.
John R. Fairbairn.
Dennis D. McCarthy.
James E. Murray.

Superintendent of Burial-Ground.

Ward I.

Benjamin F. Wyeth.

Undertakers.

Benjamin F. Wyeth.
Roland Litchfield.
Samuel F. Hunt.
Thomas Devens.
John W. Coveney.
Judson Litchfield.
William Casey.
C. Henry Lockhart.
Alvah A. Hadley.
Benjamin J. Hoyt.
W. A. Taylor.
William C. Walker.
James E. Rourke.

Auctioneers.

Samuel R. Knights.
G. C. W. Fuller.
Oliver R. Osborn.
Humphrey L. Snow.
Samuel F. Rugg.
Thomas T. Ferguson.
C. F. Boynton.
John C. Farnham.
Edward Burnham.
George C. Hosmer.
Freeman Baker.
Joseph J. Kelley.
George O. Knox.
Henry A. Burkett.
Enoch H. Wakefield.
Edmund E. Sanborn.
Benjamin King.
Michael James Moss.
Orrin P. Kinne.
John R. Fairbairn.
Edward H. Carter.
George F. McKenzie.
Samuel C. Knights.
Jeremiah W. Coveney.
James C. Wilder.
T. W. Ray.
John Lennon.
Elias Furbush.
Reuben A. Adams.
Edwin P. Henderson.

Fence Viewers.

George B. Lothrop. Abiel Goss.
Abel Stevens.

Field Drivers.

Thomas D. Cook.
James B. Morse.
Micah W. Cook.
Andrew Sproul.
Andrew G. Smith.
George A. Marston.
Benjamin Kennard.
L. J. Cloyes.
James Miller.
William T. Gibson.
Benjamin F. Bridden.
Daniel Sherman.
James H. Parks.
George Wood.
Warner W. Simonds.
John Coleman.
Thomas S. Hall.
Charles W. Rugg.
William Mullett.
Dennis Corcoran.
Moses W. Hooper.
John F. Murray.
Leonard Shackford.
Daniel Callahan.
William H. Fitzpatrick.
John Le Barron.
Frederic B. Pullen.
Albert D. Cleveland.
Henry M. Tyler.
Luther Hapgood.
Simon D. Hiscock.
Rufus S. Downe.
Charles B. Jones.
James E. Murray.
John Little.
Calvin C. Smith.
Matthew R. Moore.
Amos Jones.
David N. McCleary.
Stephen E. Day.
John Collier.
Otis Dennison.
Warren A. Eaton.
Alonzo S. Harriman.
Thomas W. Penney.
Hugh McNamee.
William Evans, Jr.
William Nickelson.
Lawrence Ducy.
Michael A. Dalton.
James Daily.
James S. Alexander.
John W. Skelley.
John Jackson.

Measurers of Wood and Bark.

John R. Taylor. Benjamin J. Hoyt.
William H. Hood. J. Henry Wyman.
John F. Brine.

Pound Keepers.

James Gilligan. Thomas D. Cook.
George A. Marston.

Fish Officers.

Thomas D. Cook. Joseph W. Averill.
Andrew Sproul.

Hay Weighers.

Timothy Sullivan. Edward Fobes.
William H. Dodge. John F. Brine.
Hibbard P. Ross.

Coal Weighers.

James F. Jefferds. J. Henry Wyman.
John F. Brine. Jones Valentine.
Thomas McIntire. Alfred H. Wellington.
William A. Hunnewell. Hibbard P. Ross.

Weigher of Boilers and Heavy Machinery.

Hibbard P. Ross.

Weighers.

Joseph W. Averill. Henry Hooker.
Patrick Dunnigan. Thomas Ralph.
James H. Reardon. George W. Wright.
Hibbard P. Ross. Alvin M. Haines.
Nathan H. Holbrook. Henry James.

Sealer of Weights and Measures.

John Cahill.

Inspector of Milk.

John Cahill.

Surveyors of Mechanics' Work.

William S. Barbour. William A. Mason.
John S. Pollard.

Measurer and Surveyor.

E. F. Young.

Inspector of Charcoal Baskets.

John Cahill.

Measurer of Grain.

John Cahill.

Inspectors of Junk Shops.

George H. Copeland. James E. Murray.
Amos Jones. Warner W. Simonds.

Ward Officers.

Ward I.

WARDEN.
George S. Saunders.

CLERK.
John Gorman.

INSPECTORS.
Joseph Williams.
Edmund Miles.
George Allen.

Ward II.

WARDEN.
Charles F. Thurston.

CLERK.
Harry B. Winnett.

INSPECTORS.
Walter H. Harding.
Charles E. Pierce.
George A. Leonard.

Ward III.

WARDEN.
Luther L. Parker.

CLERK.
Andrew Fogg.

INSPECTORS.
James J. Calnan.
James E. Doyle.
Henry A. Doherty.

Ward IV.

WARDEN.
Charles L. Russell.

CLERK.
Zephaniah H. Thomas, Jr.

INSPECTORS.
Robert N. Roaf, Jr.
Joshua H. Sanborn.
William H. Orcutt.

Ward V.

WARDEN.
Francis M. Mason.

CLERK.
Charles L. Fuller.

INSPECTORS.
Henry K. Parsons.
John McCarty.
George Prior.

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